DRAFT Future Fit Integrated Impact Assessment:

Additional analysis of potential changes to Women's and Children's services

21 July 2017

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Additional analysis of potential changes to Women's and Children's services

A report submitted by ICF Consulting Limited *and* the Strategy Unit, Midlands and Lancashire Commissioning Support Unit

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Foreword

Shropshire, Telford & Wrekin and Powys

Integrated Impact Assessment (IIA) Report

We are pleased to circulate this IIA report and draft Mitigation Plan for wider consideration and feedback during the Future Fit NHS Services Consultation period. This compliments the full IIA Report presented to the programme board at the end of 2016.

We are grateful to all who helped advise our NHS services and supported ICF on the background issues and provided data or statistics on local population and services.

We would like to thank all those who took part in clinical workshops and local people who joined focus groups or answered questionnaires. We believe that major efforts have been made to estimate impacts of the options and to meet our statutory duties in the Equality Act 2010 and other relevant legislation.

Inevitably we may have missed some data that could have been provided or that could now be updated. We invite all interested parties to contribute to the information exchange so we can refine and finalise the estimation of impacts.

Our other main wish is to engage all parties in how to mitigate any negative impacts that will occur or optimise positive impacts.

This can be done by providing written comments on the Draft Mitigation Plan or through taking part in consultation meetings.

We will actively ensure that a wide range of interested services such as local authorities, Police and other emergency services, and those in the Voluntary Sector can feedback their advice if there are any technical points or other impacts to elicit. Their support for mitigation actions would also be welcome.

Simon Freeman
Accountable Officer
Shropshire CCG

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Glossary

A&E	Accident and Emergency
BAME	Black and Asian Minority Ethnic Groups
BLA	Blue Light Ambulance
CAU	Children's Assessment Unit
CCG	Clinical Commissioning Group
CO2	Carbon Dioxide
CQC	Care Quality Commission
DCLG	Department for Communities and Local Government
DECC	Department for Energy and Climate Change
DfT	Department for Transport
DTC	Diagnostic and Treatment Centre
EC	Emergency Centre
ED	Emergency Department
FTE	Full-time Equivalent
GVA	Gross Value Added
IIA	Integrated Impact Assessment
IMD	Index of Multiple Deprivation
LGB	Lesbian, Gay and Bisexual
LGBT	Lesbian, Gay, Bisexual and Transgender
LoS	Length of Stay
LSOA	Lower Layer Super Output Area
MLU	Midwife-led Unit
MSOA	Middle Layer Super Output Area
NPV	Net Present Value
NO2	Nitrogen Dioxide
ONS	Office of National Statistics
PM	Particulate Matter
PRH	Princess Royal Hospital
PT	Public Transport
RSH	Royal Shrewsbury Hospital
SaTH	Shropshire and Telford Hospital NHS Trust
UCC	Urgent Care Centre
W&C	Women and Children
WTE	Whole-time Equivalent

Executive Summary

Introduction

- ICF and the SU conducted an Integrated Impact Assessment (IIA) of the Future Fit preferred options between May and November 2016. This assessed the potential impacts and equality effects of the proposed changes to acute hospital services under each option. Changes to Women and Children Services under the options were not covered in detail in the original IIA, and so their potential impacts and equality effects were not fully explored. This document presents the additional analysis required by the Future Fit programme board.
- This report presents the findings of additional analysis to assess the potential impacts and equality effects of changes to Women's and Children's services proposed under the Future Fit programme.
- It complements the Integrated Impact Assessment (IIA) of Future Fit, which was conducted in 2016 and focused on the proposed changes to acute hospital services under the preferred Future Fit options.
- Both the additional analysis and the previous IIA were conducted as separate exercises to the Future Fit options appraisal process.
- Future Fit is a clinician-led programme to transform hospital services for patients in Telford and Wrekin, Shropshire and parts of Powys so that they are financially sustainable and continue to deliver safe, high quality care to patients.
- Under Future Fit Option B the current configuration of services for women and children would largely be retained, although the majority of gynaecology day case services would also be delivered at RSH rather than at both sites.
- Under Option C1 in-patient services for women and children would be relocated from PRH to RSH. Most out-patient services would continue to be delivered at both sites. Gynaecology day case services would be delivered at PRH only.
- The aim of this additional analysis was to conduct a robust assessment of the potential health, access, economic, social and environmental impacts and equality effects of the proposed changes to Women's and Children's services.
- The methodology closely followed that of the original IIA. The assessment of health impacts was informed by a clinical workshop with expert stakeholders from across the local health and care economy.
- In reviewing this report, it should be noted that the impacts for women and children represent a sub-group of the impacts for the population as a whole. The impacts across the population were fully stated in the 2016 IIA and the scale of impacts for women and children should be reviewed in this context.
- Findings from public engagement and equalities activities undertaken by Shropshire CCG, Telford and Wrekin CCG, and Powys Teaching Health Board have also been drawn upon throughout.

The Affected Population

- There are 223,303 adult women living in the catchment area: 127,807 in Shropshire, 66,836 in Telford and Wrekin, and 28,660 in the affected parts of Powys.

- Based on data for September 2014 to August 2016 there were 7,330 ante and postnatal women in the catchment area: 3,797 in Shropshire, 2,749 in Telford and Wrekin, and 784 in Powys.
- Overall, nearly a half (45.3%) of women in the catchment area live in a rural area, but this proportion is notably higher in Powys (84%) and Shropshire (56.9%) than it is in Telford and Wrekin (6.2%). In absolute terms, Shropshire is home the largest number of women living in a rural area (73,119 compared to 23,720 in the affected parts of Powys and 4,143 in Telford and Wrekin.
- Telford and Wrekin has a higher proportion of women aged 18-44, BAME women and women living in deprivation than the other two areas. However, in absolute terms Shropshire is home to the largest number of women aged 18-44 (43,670 compared to 29,206 in Telford and Wrekin and 9,163 in the affected parts of Powys). Telford and Wrekin has the largest number of BAME women (4,879 compared to 2,556 in Shropshire and 311 in the affected parts of Powys) and women living in deprivation (17,185 compared to 5,408 in Shropshire and 1,354 in the affected parts of Powys).
- There are 104,588 children living in the catchment area: 55,462 in Shropshire, 36,945 in Telford and Wrekin, and 12,181 in the affected parts of Powys.
- The characteristics of the child population in the catchment area follow a similar pattern to the adult female population, with more children living in rural areas in Shropshire and Powys, and higher proportions and numbers of BAME and deprived children in Telford and Wrekin.
- Infant mortality rates in Shropshire (3.1 per 1,000 live births) and Powys (3.8 per 1,000 live births) are slightly below the national average (3.9 per 1,000 live births), while they are higher in Telford and Wrekin (6.5 per 1,000 live births).
- Women and children in different protected characteristic groups (as defined by the 2010 Equality Act) may have differing health and healthcare experiences, which could mediate how they would be affected by the proposed changes. These groups include:
  - Pregnant and maternal women: key user group of the affected services; main determinants of healthcare experiences are safety, choice and continuity of care.
  - New-born and neonate children: the most likely of any age group to require specialist medical care due to premature birth and/or a medical condition that requires monitoring or specialised treatment.
  - BAME women: higher than average rates of maternal mortality and stillbirths (particularly for mothers born outside the UK).
- Other groups, beyond those protected under equalities legislation, that could also be at risk of being disproportionately affected include:
  - Women and children living in rural areas: national evidence highlights journey times to access consultant-led maternity services as key issue for rural women.
  - Deprived young families: Living in areas of high deprivation is strongly associated with poorer health outcomes for women and children.
- There were 48,455 users of SaTH Women's and Children's services in 2015/16. 7,621 used in-patient Women's services (9,647 spells of care) and 4,633 were users of in-patient Children's services (5,840 spells of care).
- The average length of stay varies between different services – from less than a day for colposcopy procedures and gynaecology to over two weeks for neonatal ward patients.

- Most users of Women's and Children's services are White British. The highest proportions of women and children from other ethnic groups are amongst users of maternity, midwife, consultant delivery and child in-patient services.
- A proportion of users live in areas of high deprivation, and this proportion is largest amongst users of consultant delivery and antenatal services, and all children in-patient services.

Health and Access Impacts and Equality Effects: Women's services

Clinical effectiveness

- The main change options (B and C1) are expected to sustainably improve the effectiveness of clinical care provided to the affected population. However, some caveats exist for Women's services, for example the majority of day cases being handled at the site where emergency care is not located, has implications for high risk cases and workforce rota systems.

Patient safety

- The main change options (B and C1) are expected to sustainably improve the safety of clinical care provided to the affected population. However, some caveats exist for Women's services, for example there needs to be some way of identifying high risk, complex cases that necessitate instant access to emergency services.

Patient experience

- The main change options (B and C1) are expected to sustainably improve patient experience of clinical services for the affected population. However, some caveats exist for Women's services, for example the influence of lifestyle associated risk factors on use of emergency gynaecology services and distance between the location of the midwife-led unit and the consultant-led unit.

Access to gynaecology day case services

- 798 journeys to these services would potentially be affected each year under Option B. Average journey times would increase by 3.4 minutes (car) or 3.1 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- 333 journeys to these services would potentially be affected each year under Option C1. Average journey times would decrease by 0.4 minutes (car) but increase by 2.6 minutes (public transport). By area, journey times would be shorter from Bridgnorth, Hadley Castle, Lakeside and the Wrekin but longer from other areas.
- Older women, BAME women and those living in more deprived areas are more likely to have longer journey times under Option B but shorter journey times under Option C1.

Access to gynaecology in-patient services

- 2,419 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 5.5 minutes (car) or 4.3 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- Older women, BAME women and those living in more deprived areas are more likely to have longer journey times under Option C1.

Access to consultant-led antenatal ward (ending in birth episode)

- 1,782 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 9.6 minutes (car) or 8.2 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- Younger women, BAME women and those living in more deprived areas are more likely to have longer journey times under Option C1.

Access to consultant-led antenatal ward (not ending in birth episode)

- 666 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 6.2 minutes (car) or 8.2 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- Younger women, BAME women and those living in more deprived areas are more likely to have longer journey times under Option C1.

Access to consultant-led delivery ward (ending in birth episode)

- 1,765 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 6.9 minutes (car) or 8.5 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- Younger women, BAME women and those living in more deprived areas are more likely to have longer journey times under Option C1.

Access to consultant-led delivery ward (not ending in birth episode)

- 795 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 8.8 minutes (car) or 10.7 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- Younger women, BAME women and those living in more deprived areas are more likely to have longer journey times under Option C1.

Access to consultant-led postnatal ward

- 289 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 6.9 minutes (car) or 8.3 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- BAME women and those living in more deprived areas are more likely to have longer journey times under Option C1.

Transfers from Midwife-led Units

- There were 334 transfers from midwife-led units to the consultant led unit at PRH in 2015/16. Under Option C1, the journey times of transfers to the consultant led unit (which would be relocated to RSH) would increase by an average of 5 minutes.
- By area, the journey time of transfers from midwife-led units in The Wrekin and Bridgnorth would increase, while they would decrease from midwife-led units elsewhere.

Crosscutting impacts and equality effects

- Awareness and understanding of the detail of the proposed changes to Women's and Children's services is currently low amongst the affected population, which is likely to be mediating the concerns and views they currently have.

- Perceptions of the existing Women's and Children's services at PRH are very positive, prompting questions about value for money of the proposed changes and a need for reassurance that any relocated services would meet the same standards.
- Journey times to access the affected services is shared concern for women and children amongst all protect characteristic equality groups. Equally, specific combinations of characteristics and circumstances may lead to particular differential effects.

Health and Access Impacts and Equality Effects: Children's services

Clinical effectiveness

- The main change options (B and C1) are expected to sustainably improve the effectiveness of clinical care provided to the affected population. However, some caveats exist for Children's services, for example the risks associated with emergency transfer of an acutely unwell child from the Urgent Care Centre at one site, to the children's assessment unit at the other site. Clinical effectiveness benefits are also dependent upon the seamless rotation of staff of all grades, between the two sites of PRH and RSH, in either option.

Patient safety

- The main change options (B and C1) are expected to sustainably improve the safety of clinical care provided to the affected population. However, some caveats exist for Children's services, for example it is still largely unknown whether some parents living further from a hospital site, extend self-management of an acutely unwell child, before opting to consult emergency services.

Patient experience

- The main change options (B and C1) are expected to sustainably improve patient experience of clinical services for the affected population. However, some caveats exist for Children's services, for example the proposed Urgent Care Centre service will need effective publicity to raise awareness and confidence amongst the patient population about the services on offer,

Access to in-patient Children's Assessment Unit

- 2,419 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 4.5 minutes (car) or 2.8 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from Bridgnorth, Hadley Castle, Lakeside South and the Wrekin.
- Pre-school children and older children (15 and over), BAME children and those living in more deprived areas are more likely to have longer journey times under Option C1.

Access to the children's in-patient ward

- 5,693 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 9.2 minutes (car) or 13.7 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from Bridgnorth, Hadley Castle, Lakeside South and the Wrekin.
- BAME children and those living in more deprived areas are more likely to have longer journey times under Option C1.

- Nearest-site analysis of the IIA data suggests 217 would self-convey to RSH leaving 226 children subsequently admitted who might have attended the UCC at PRH and therefore require an internal site transfer.

Access to neonatal ward

- For the 328 babies admitted to the neonatal ward after birth there would be no impact on access – they would already be on the same site under Option C1, but there are likely to be access impacts for carers.

Journey times for admissions to the neonatal ward from elsewhere would potentially be affected, either positively or negatively, although the number of these admissions (31) is very small.

Economic Impacts and Equality Effects

Local employment

- The changes proposed to Women's and Children's services under Option C1 could have a direct impact (on employment at each hospital site) and an indirect effect through multiplier effects.
- Option C1 would lead to a small increase in employment in Shropshire and Powys, offset by a decrease in employment in Telford and Wrekin. The overall impact of Option C1 across all areas is negligible.

Local business

- Multiplier effects can also have an impact on the number and performance of local businesses. However, across each option and in each area, the impact on local businesses is estimated to be negligible.

Local education/training opportunities

- As the impact of the proposed changes to Women and Children's service on employment levels is so small, it is likely that there will be no subsequent knock-on impact on local educational opportunities.

Local economy

- Changes in employment and local businesses in a local area could impact on the level of output (or income) in a local area, measured through Gross Value Added (GVA).
- It is projected that there would be a negligible increase in GVA in Shropshire under Option C1, a negligible decrease in Telford and Wrekin, and no impact in Powys.

Local house prices

- The changes proposed to Women's and Children's services under Option C1 are proposed to have a negligible impact on local house prices.

Social Impacts and Equality Effects

Local community cohesion

- The impact of the proposed changes to Women's and Children's services on community cohesion is currently uncertain but unlikely to be significant at the scale of the catchment area as a whole.
- Equally any volunteering activities tied to in-patient Women's and Children's services at PRH would potentially be affected if these are transferred to RSH, which could have a marginal negative impact on community cohesion in Telford and Wrekin.

- Any impact on community cohesion may disproportionately affect groups that are vulnerable to prejudice or discrimination, namely BAME, LGBT and disabled groups.

Local well-being

- How healthy people feel is a key determinant of their well-being, and as the proposed changes are projected to have a positive impact on the health of women and children, they would also contribute positively to local well-being.
- Interviewees suggested that the proposed changes could contribute to increased anxiety for some women and children, due to longer and more complex journeys or the unfamiliarity of the RSH site.
- Women and children with a visual impairment or other disability may be disproportionately at risk of experiencing anxiety related to unfamiliar journeys routes and building layouts.

Local deprivation

- Deprivation is partly a product of the local population's income, health and access to services. The proposed changes would have a small positive and negative impacts in these areas, meaning no significant overall impact on deprivation.
- Increased transport costs to access Women's and Children's services could disproportionately affect residents in Telford and Wrekin, and those already living in or close to deprivation would be most a risk of any negative impact.

Local traffic/congestion levels

- Around 21,000 road journeys per annum would be undertaken to RSH rather than PRH under Option C1. This represents a small proportion of all travel to access the two hospital sites, which accounts for over 800,000 road journeys per annum. Consequently the changes could have a small negative impact on congestion levels in and around Shrewsbury (and a small positive one in and around Telford).

Environmental Impacts and Equality Effects

Greenhouse gas emissions

- New build to accommodate the relocated Women's and Children's services and changes in the volume of vehicle miles driven to access these services under Option C1 would potentially impact on greenhouse emissions.
- The direction and scale of this impact is uncertain. Data is not available on the current or projected carbon footprint of the relevant buildings. There would be a small increase in greenhouse gas emissions from road journeys to access the relocated services.

Air pollution

- Road traffic is a significant contributor to air pollution, and the projected increase in the volume of vehicle miles driven to access the relocated Women's and Children's services under Option C1 would marginally increase the emission of pollutants such as particulate matter and CO2.
- Any impacts on air pollution levels would be greatest in Shropshire, and specifically in the areas immediately surrounding the roads that serve RSH.
- Air pollution can have a disproportionately adverse effect on: older people; people with pre-existing long-term health conditions; pregnant women; and young children.

Noise pollution

- Noise pollution from ambulance sirens would potentially increase in and around RSH as a consequence of the relocation of Women's and Children's services to this site under Option C1.
- However, as most users of these services are not conveyed by ambulance the scale of this impact would be small, particularly in comparison to the impact of the potential changes to emergency care services.
- If any localised impact on noise pollution is experienced, then young people may be particularly affected. They are more vulnerable to the potential negative effects of noise pollution than other age groups.

Biodiversity

- Impacts on biodiversity are currently uncertain. Neither hospital site is home to habitats that are officially designated as having a high biodiversity value but both have gardens.
- New build to accommodate Women's and Children's services relocated to RSH could potentially have an impact but more detailed architectural plans and environment survey work would be required to test this.

Cultural heritage

- The proposed changes are projected to have no significant impact on cultural heritage.

Conclusions and Recommendations

Key findings on impacts

- In reviewing this report, it should be noted that the impacts for women and children represent a sub-group of the impacts for the population as a whole. The impacts across the population were fully stated in the 2016 IIA and the scale of impacts for women and children should be reviewed in this context.
- Option B and Option C1 would both have positive health impacts for users of Women's and Children's services across the catchment area.
- Most access impacts are neutral under Option B and negative under Option C1 at the scale of the catchment area as whole, due to higher overall average journey times. However this varies widely for different localities within the catchment area, with some projected to experience shorter journey times.
- Under Option C1 the most positive impacts on access would be experienced in Shrewsbury & Atcham, Oswestry and Powys. The most negative impacts would be experienced in the three Telford and Wrekin localities.
- The projected economic, social and environmental impacts are all either of a minimal scale, neutral or uncertain at the time of writing.

Key findings on equality effects

- Several groups of women and children would experience a combination of positive and negative equality effects arising from the projected impacts. They may be disproportionately most likely to use the affected services, and therefore benefit the most from the project positive health impacts. Equally some may be disproportionately affected by the longer projected journey times.

Mitigation and enhancement

- Key recommendations for mitigation and enhancement include: reducing unnecessary journeys and transfers; safer care pathway agreements for children; and reducing risk factors before, during and after pregnancy.

Priorities for further investigation

- The following priorities for further investigation were identified:
    - Further work is required to enhance the availability of urgent services in remote locations. Lessons can be drawn from an Australian model where paramedics have complete access to Emergency medications and can administer these instantly if required, following remote consultation with a clinician. Additional data and information is required to better understand patient experience. This includes:
        - Mortality and morbidity data for each locality, with reference to travel times.
        - The profile of the population, particularly those groups protected under equalities legislation that will be affected by options B and C1.
    - A strong public awareness campaign is needed, to inform and educate the public about the correct service to access in the case of a medical Emergency for an acutely unwell child. Further engagement could be potentially completed with the population as a whole to ensure of a full understanding of current and future services. There needs to be continued engagement with West Midlands Ambulance Service and Welsh Ambulance Service to ensure their complete involvement and collaboration with the proposed model.
    - Further explore whether there is a correlation between maternal risk factors, C-section rates and risk category that may be amendable to additional mitigation measures.
    - Build on existing and planned public health interventions and consider a more proactive/aggressive system-wide approach to prevention, bridging deprivation and other equalities gaps which would more effectively and appropriately support the re-configuration and improve outcomes for women and children.
    - Further work to test the assumptions regarding public transport availability and actual travel times. Review of available parking to ensure timely access to appointments.
    - Further work, building on current discussions that are well progressed, with the ambulance services regarding Ambulance response times across Shropshire, Telford & Wrekin and Powys.
    - Further conversations are required to ensure all clinicians are satisfied with the clinical processes proposed for identification of higher risk day case gynaecology patients who would have their day case surgery at the Emergency Site and would return to the Gynaecology Ward for their post-op care.
    - A review of the location of Breast Services provided by Shrewsbury and Telford NHS Trust
    - There is some speculation that parents living further from a hospital site may choose to extend self-management of an acutely unwell child for a longer period, before opting to consult Emergency services. There is however, a lack of evidence to confirm this. Patient engagement is required to derive evidence in support or against this phenomenon.

1 Introduction

- This report presents the findings of additional analysis to assess the potential impacts and equality effects of changes to Women's and Children's services proposed under the Future Fit programme.
- It complements the Integrated Impact Assessment (IIA) of Future Fit, which was conducted in 2016 and focused on the proposed changes to acute hospital services under the preferred Future Fit options.
- Both the additional analysis and the previous IIA were conducted as separate exercises to the Future Fit options appraisal process.
- Future Fit is a clinician-led programme to transform hospital services for patients in Telford and Wrekin, Shropshire and parts of Powys so that they are financially sustainable and continue to deliver safe, high quality care to patients.
- Under Future Fit Option B the current configuration of services for women and children would largely be retained, although the majority of gynaecology day case services would also be delivered at RSH rather than at both sites.
- Under Option C1 in-patient services for women and children would be relocated from PRH to RSH. Most out-patient services would continue to be delivered at both sites. The majority of gynaecology day case services would be delivered at PRH.
- The aim of this additional analysis was to conduct a robust assessment of the potential health, access, economic, social and environmental impacts and equality effects of the proposed changes to Women's and Children's services.
- The methodology closely followed that of the original IIA. The assessment of health impacts was informed by a clinical workshop with expert stakeholders from across the local health and care economy.
- Findings from public engagement and equalities activities undertaken by Shropshire CCG, Telford and Wrekin CCG, and Powys Teaching Health Board have also been drawn upon throughout.

In 2016 ICF and the Strategy Unit (Midlands and Lancashire Commissioning Support Unit) conducted an Integrated Impact Assessment (IIA) of the Future Fit programme. The focus of the IIA was on proposed changes to acute hospital services under the programme's three preferred options. Additional analysis has subsequently been conducted to assess the impact of proposed changes to Women's and Children's services under the options. This report presents the findings from this additional analysis and is a companion-piece to the report of the findings from the main IIA, 2016.

The IIA and this additional analysis have been undertaken as separate exercises to the Future Fit options appraisal process. The intention has been that together they will contribute to the Future Fit option decision post consultation by providing the required impact evidence and analysis.

1.1 The Future Fit programme

Future Fit is a clinician-led programme to transform hospital services for patients in Telford and Wrekin, Shropshire and parts of Powys so that they are financially

sustainable and continue to deliver safe, high quality care to patients. These areas are served primarily by the Princess Royal Hospital in Telford and the Royal Shrewsbury Hospital. The current hospital configuration is recognised to be unsustainable due to significant workforce challenges in critical specialities, a growing and ageing population, and an imperative to maintain and increase quality standards within future NHS budget constraints.

Details of four options for the configuration of hospital service were published in the March 2016 Future Fit Strategic Outline Case. In line with HM Treasury Green Book guidance[1], this included one "do minimum" Option (A), plus three preferred options (B, C1 and C2). Key considerations that informed the design of the preferred options were: the scope for patients who present at Emergency Care to receive Urgent Care instead; a desire to retain a balance of services at both hospital sites; and the potential advantages of co-locating Critical Care services.

The proposed provision of services under each option is summarised in Table 1.1.

Table 1.1 Overview of Future Fit options

	Princess Royal Hospital (Telford)	Royal Shrewsbury Hospital
Option A "do minimum"	■ Emergency Care ■ Complex Planned Care ■ Non-Complex Planned Care ■ Women & Children Out-patients and In-patients	■ Emergency Care ■ Complex Planned Care ■ Non-Complex Planned Care ■ Women & Children Out-patients
Option B	■ Emergency Care ■ Urgent Care Centre (24hrs/day) ■ Complex Planned Care ■ Women & Children Out-patients and In-patients	■ Urgent Care Centre (24hrs/day) ■ Non-Complex Planned Care ■ Women & Children Out-patients
Option C1	■ Urgent Care Centre (24hrs/day) ■ Non-Complex Planned Care ■ Women & Children Out-patients	■ Emergency Care ■ Urgent Care Centre (24hrs/day) ■ Complex Planned Care ■ Women & Children Out-patients and In-patients
Option C2	■ Urgent Care Centre (24hrs/day) ■ Non-Complex Planned Care ■ Women & Children Out-patients and In-patients	■ Emergency Care ■ Urgent Care Centre (24hrs/day) ■ Complex Planned Care ■ Women & Children Out-patients

In December 2016, the NHS Future Fit Programme Board supported the recommendation that Option C2 was not clinically deliverable or sustainable. Therefore it has not been considered as part of this additional analysis.

1.2 Changes to Women's and Children's services

Princess Royal Hospital currently provides out-patient and in-patient services for women and children in a dedicated Women and Children centre, which opened in

[1] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf

2014. Several out-patient services for women and children are also currently delivered at the Royal Shrewsbury Hospital.

Under Option A no changes would be made to any of these services.

Under Option B the current configuration of services for women and children would also largely be retained, although the children's assessment unit will be located at PRH only rather than at both sites, as is currently the case. The majority of gynaecology day case services would also be delivered at RSH rather than at both sites.

Under Option C1 in-patient services for women and children would be relocated from PRH to RSH. Most out-patient services for women and children would continue to be delivered at both sites, although a children's assessment unit will be located at RSH only rather than at both sites. The majority of gynaecology day case services would be delivered at PRH only.

Under Options B and C1 all initial assessments will be carried out in the urgent care centre at each site, whilst emergency admissions will occur via the children's assessment unit, located at the same site as Emergency care. All paediatrics and neonatal day cases will also be handled at the site with Emergency care. Therefore in Option B, whilst initial assessment can occur via the urgent care centre at both sites, Emergency admission will be through the children's assessment unit only at PRH, and all day cases will also be handled at PRH. In Option C1 whilst initial assessment can occur via the urgent care centre at both sites, Emergency admission will be through the children's assessment unit only at RSH, and all day cases will also be handled at RSH. The detail of operational activities at the UCC is continues to be explored through discussions between SATH and the commissioners.

Table 1.2 illustrates the configuration of services under each option.

Table 1.2 Detailed configuration of services under Future Fit options

	Option A "do minimum"	Option B	Option C1
Services for all patients	■ Emergency care at both sites ■ Complex planned care at both sites ■ Non-complex planned care at both sites	■ Emergency care at PRH ■ Urgent care (24/7) at both sites ■ Complex planned care at PRH ■ Non-complex planned care at RSH	■ Emergency care at RSH ■ Urgent care (24/7) at both sites ■ Complex planned care at RSH ■ Non-complex planned care at PRH
Women's services	■ Out-patient community and MLU services at both sites (including colposcopy), ■ Gynaecology Outpatients, Day Case, Procedures and EPAS at both sites. Gynaecology inpatient, Assessment and Treatment Unit ay PRH. ■ In-patient services and consultant led births at PRH (including ante-, post- and neo-natal wards)	■ Out-patient, community and MLU services at both sites (including colposcopy) ■ Majority Gynaecology day case at RSH only ■ In-patient services and consultant led births at PRH (including ante-, post- and neo-natal wards)	■ Out-patient, community and MLU services at both sites (including colposcopy) ■ Majority Gynaecology day case at PRH only ■ In-patient services and consultant led births at RSH (including ante-, post- and neo-natal wards)

	Option A "do minimum"	Option B	Option C1
Children's services	■ Out-patient services at both sites (including paediatric/ children's assessment units and Children's Ward) ■ In-patient services at PRH	■ Out-patient services at both sites ■ Initial assessment in Urgent Care Centre at both sites. Emergency admission via Children's assessment unit at PRH. ■ In-patient services at PRH ■ Paediatrics and Neonates day cases at PRH	■ Out-patient services at both sites ■ Initial assessment in Urgent Care Centre at both sites. Emergency admission via Children's assessment unit at RSH. ■ In-patient services at RSH ■ Paediatrics and Neonates day cases at RSH

1.3 The Integrated Impact Assessment

The previous IIA focused on the proposed changes to acute hospital services under the Future Fit options. A range of potential impacts were initially identified and then, based on interviews with programme stakeholders and input from the Future Fit Impact Assessment working group, a shortlist of impacts was selected for detailed assessment (see Table 1.3). Potential equality effects arising out of each impact were also assessed.

Table 1.3 Impacts assessed in the previous IIA

Health & access impacts:
- Clinical effectiveness
- Patient safety
- Patient experience
- Workforce recruitment and retention
- Services delivered in local community
- Travel times to access acute and emergency care
- Travel times to access non-complex planned care
- Convenience of access to non-complex planned care by public transport

Economic impacts:
- Local businesses
- Local employment
- Local education/training opportunities
- Local economy
- Local house prices

Social impacts:
- Local well-being
- Local community cohesion
- Local deprivation
- Local traffic/congestion levels

Environmental impacts:
- Greenhouse gas emissions
- Air pollution
- Noise pollution
- Biodiversity
- Cultural heritage

1.4 This additional analysis

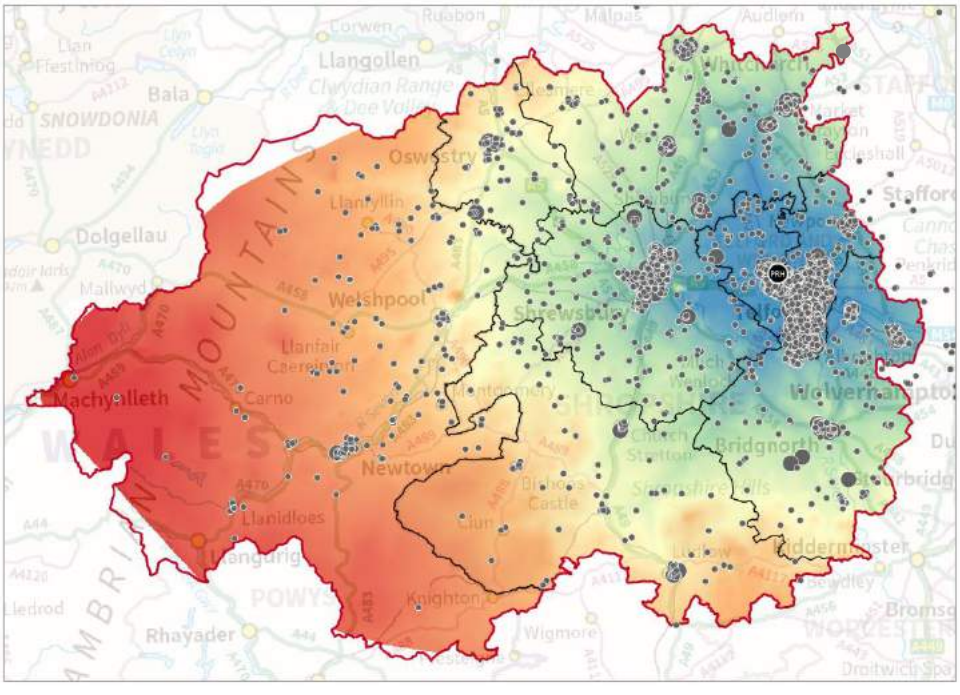
The aim of this additional analysis was to conduct a robust assessment of the potential impacts and equality effects of the proposed changes to Women's and Children's services under the Future Fit options.

The methodology closely followed that of the original IIA in order to ensure the findings from both are used together. In summary, this entailed:

- A **scoping and evidence review phase**, in which socio-demographic and health data on the potentially affected population, and wider literature on the healthcare experiences of women and children, was reviewed.
- The **assessment of potential impacts**, which focused on a similar set of health, access, economic, social and environmental impacts to those assessed in the original IIA. This drew on primary and secondary evidence to assess the timescale, duration, and geographical distribution of each potential impact.

  The assessment of health impacts was primarily informed by **a clinical workshop with expert stakeholders** from across the local health and care economy. The workshop was designed and approved by the Future Fit IIA committee and held on 27th June 2017 at Shrewsbury Town Football Club. A range of organisations (including both CCGs, commissioners and SaTH) were invited to nominate workshop attendees and care was taken to ensure sufficient representation of the affected geographies, staff groups and patients. See Annex 1 for details of the attendees. It should be noted that the views expressed at the workshop and reflected in this report are based on the opinions of experts who are not entirely independent from the situation.

  The assessment of access impacts was based on **statistical analysis of journey times and distances** using TRACC software, the Integrated Transport Network road network, INRIX data and the latest Public Transport (PT) schedules from Basemap. To aid comparison both car and public transport journey times have been calculated for daytime off-peak travel (between 10am and 4pm). Maps are used (see example below) to provide a visual representation of journey times.



● = Patient home location

⬤ = Hospital site

Map shading	Car time-boundaries	Public Transport time-boundaries
	< 15 mins	< 30 mins
	15-29 mins	30-59 mins
	30-44 mins	60-89 mins
	45-59 mins	90-119 mins
	60+ mins	120+ mins

The executive summary describes the net effect on median journey times (so a small number of very long or very short journeys are not skewing the figures) across the whole population whilst the detailed narrative provides additional information on average (mean) journey times, the distribution of all journey times as well as present the impact on journey times and distances for patients within each of the 9 localities.

Further details of the methodology used to analyse access impacts are provided in Annex 2. Where maps and tables refer to 'PT' this is an abbreviation of Public Transfer unless stated otherwise.

- The **assessment of equality effects**, which explored potential disproportionate and differential equality effects of the proposed changes on different groups in the local population, including those groups protected under the 2010 Equality Act[2]. This was partly informed by the expert workshop and access analysis described above. Interviews were also conducted with representatives of different equalities groups in the catchment area.

In addition, this analysis has been informed by findings from by engagement activities conducted by Shropshire CCG and Telford and Wrekin CCG as part of **the Future Fit public engagement** and an **Equalities Impact Assessment** conducted by Powys Teaching Health Board. The public engagement included focus groups and interviews with local residents and an online survey. The Equalities Impact Assessment was based on local engagement activities with service users and their families, members of the public, third sector organisations and other stakeholders in Powys. The findings from both these pieces of work are provided in full in Annex 4 and Annex 5 respectively.

1.5 Report structure

The report is structured as follows:

- **Chapter 2** describes the key characteristics, health and healthcare experiences of the women and children population in the catchment area and provides data on the numbers of current users of the Women's and Children's services.
- **Chapter 3** presents evidence on projected health and access impacts and equality effects of changes to Women's services.
- **Chapter 4** presents evidence on projected health and access impacts and equality effects of changes to Children's services.

[2] The nine protected characteristics defined by the 2010 Equality Act are: Age; Disability; Gender Reassignment; Marriage and Civil Partnership; Pregnancy and Maternity: Race; Religion and Belief; Sex; and Sexual Orientation.

- **Chapter 5** presents evidence on projected economic impacts and equality effects.
- **Chapter 6** presents evidence on projected social impacts and equality effects.
- **Chapter 7** presents evidence on projected environmental impacts and equality effects.
- **Chapter 8** provides conclusions, suggestions for mitigation and enhancement, and recommendations for further investigation.

2 The Affected Population

- There are 223,303 adult women living in the catchment area: 127,807 in Shropshire, 66,836 in Telford and Wrekin, and 28,660 in the affected parts of Powys.
- Based on data for September 2014 to August 2016 there were 7,330 ante and postnatal women in the catchment area: 3,797 in Shropshire, 2,749 in Telford and Wrekin, and 784 in Powys.
- Overall, nearly a half (45.3%) of women in the catchment area live in a rural area, but this proportion is notably higher in Powys (84%) and Shropshire (56.9%) than it is in Telford and Wrekin (6.2%). In absolute terms, Shropshire is home the largest number of women living in a rural area (73,119 compared to 23,720 in the affected parts of Powys and 4,143 in Telford and Wrekin.
- Telford and Wrekin has a higher proportion of women aged 18-44, BAME women and women living in deprivation than the other two areas. However, in absolute terms Shropshire is home to the largest number of women aged 18-44 (43,670 compared to 29,206 in Telford and Wrekin and 9,163 in the affected parts of Powys). Telford and Wrekin has the largest number of BAME women (4,879 compared to 2,556 in Shropshire and 311 in the affected parts of Powys) and women living in deprivation (17,185 compared to 5,408 in Shropshire and 1,354 in the affected parts of Powys).
- There are 104,588 children living in the catchment area: 55,462 in Shropshire, 36,945 in Telford and Wrekin, and 12,181 in the affected parts of Powys.
- The characteristics of the child population in the catchment area follow a similar pattern to the adult female population, with more children living in rural areas in Shropshire and Powys, and higher proportions and numbers of BAME and deprived children in Telford and Wrekin.
- Infant mortality rates in Shropshire (3.1 per 1,000 live births) and Powys (3.8 per 1,000 live births) are slightly below the national average (3.9 per 1,000 live births), while they are higher in Telford and Wrekin (6.5 per 1,000 live births).
- Women and children in different protected characteristic groups (as defined by the 2010 Equality Act) may have differing health and healthcare experiences, which could mediate how they would be affected by the proposed changes. These groups include:
  - Pregnant and maternal women: key user group of the affected services; main determinants of healthcare experiences are safety, choice and continuity of care.
  - New-born and neonate children: the most likely of any age group to require specialist medical care due to premature birth and/or a medical condition that requires monitoring or specialised treatment.
  - BAME women: higher than average rates of maternal mortality and stillbirths (particularly for mothers born outside the UK).
- Other groups, beyond those protected under equalities legislation, that could also be at risk of being disproportionately affected include:
  - Women and children living in rural areas: national evidence highlights journey times to access consultant-led maternity services as key issue for rural women.
  - Deprived young families: Living in areas of high deprivation is strongly associated with poorer health outcomes for women and children.
- There were 48,455 users of SaTH Women's and Children's services in 2015/16. 7,356

used in-patient Women's services and 3,148 were users of in-patient Children's services.

- The average length of stay varies between different services – from less than a day for colposcopy procedures and gynaecology to over two weeks for neonatal ward patients.
- Most users of Women's and Children's services are White British. The highest proportions of women and children from other ethnic groups are amongst users of maternity, midwife, consultant delivery and child in-patient services.
- A proportion of users live in areas of high deprivation, and this proportion is largest amongst users of consultant delivery and antenatal services, and all children in-patient services.

This chapter provides evidence on the characteristics, health and healthcare experiences of the women and children population potentially affected by changes to Women's and Children's services under Future Fit. In order to provide the basis for assessing any potential equality effects arising from the proposed changes, the health and healthcare experiences of specific groups of women and children are also considered. This draws on some local evidence sources, published health statistics, and wider national evidence. In addition, this chapter provides evidence on the numbers and characteristics of current users of the Women's and Children's services in the catchment area, based on SaTH 2015/16 data.

2.1 Women and children population

2.1.1 Women

There are currently just over 220,000 adult women living in the catchment area. Table 2.1 illustrates the basic characteristics of this population in Shropshire, Telford and Wrekin, the affected parts of Powys, the catchment area as a whole, and how these compare to national averages.

Table 2.1 Numbers and characteristics of women in the catchment area

		Shropshire		Telford & Wrekin		Affected parts of Powys		Combined catchment area		National
Number of women			127,807		66,836		28,239		223,303	-
Ante & postnatal women			3,797		2,749		784		7,330	-
Age	18-29	*14.2%*	18,149	*19.2%*	12,836	*14.1%*	3,971	*15.7%*	34,956	*19.3%*
	30-44	*20.0%*	25,521	*24.5%*	16,370	*18.4%*	5,192	*21.1%*	47,083	*24.5%*
	45-59	*26.8%*	34,199	*26.4%*	17,621	*27.1%*	7,641	*26.6%*	59,461	*25.2%*
	60-74	*24.5%*	31,256	*20.0%*	13,346	*25.5%*	7,210	*23.2%*	51,812	*19.3%*
	75+	*14.6%*	18,682	*10.0%*	6,663	*15.0%*	4,225	*13.2%*	29,570	*11.7%*
Living in rural area		*57.2%*	73,119	*6.2%*	4,143	*84.0%*	23,720	*45.3%*	100,982	*18.3%*
BAME population	All	*2.0%*	2,556	*7.3%*	4,879	*1.1%*	311	*3.5%*	7,746	*12.0%*
	Black	*0.2%*	256	*1.1%*	735	*0.1%*	28	*0.5%*	1,019	*3.0%*
	Asian	*1.0%*	1,278	*4.2%*	2,807	*0.5%*	141	*1.9%*	4,226	*6.7%*
	Mixed	*0.7%*	895	*1.8%*	1,203	*0.4%*	113	*1.0%*	2,211	*1.4%*
	Other	*0.1%*	128	*0.3%*	201	*0.1%*	28	*0.2%*	357	*0.8%*
Life expectancy at 65 (years)			21.8		20.3		21.8		21.4	*21.0%*
Disability		*22.8%*	29,140	*18.6%*	12,431	*21.3%*	6,015	*21.3%*	47,586	*22.2%*

	Shropshire		Telford & Wrekin		Affected parts of Powys		Combined catchment area		National
Living in an area of high deprivation[3]	*4.2%*	5,408	*25.7%*	17,185	*4.8%*	1,354	*10.7%*	23,947	*19.1%*
No car access[4]	*13.4%*	17,126	*17.8%*	11,897	*12.6%*	3,558	*14.6%*	32,581	*22.1%*

Sources: ONS, 2016. Mid-2015 Population Estimates for Lower Layer Super Output Areas in England and Wales by Single Year of Age and Sex; ONS, 2015. Life Expectancy at Birth and at Age 65 by Local Areas in England and Wales (life expectancy); English Index of Multiple Deprivation 2015 and Welsh Index of Multiple Deprivation 2014 (deprivation); all other data from 2011 census.

Overall the catchment area is notable for its rurality, with nearly a half of women living in a rural area. However, this is significantly lower in Telford and Wrekin than it is in Shropshire and Powys. Telford and Wrekin also has a higher proportion of women aged 18-44 than the other two areas, a higher proportion of BAME women, and a higher proportion living in an area of high deprivation. The three areas have similar rates of disability amongst the female population but life expectancy is lower in Telford & Wrekin than in the other two areas. Most but not all women in the three areas live in a household with access to a car.

Further data on the profile of women and children in localities within Shropshire, Telford and Wrekin, and Powys are provided in Annex 3.

The Office for National Statistics projects that in 2036 there will be nearly 20,000 more adult women than there were in 2015, with most of this growth coming in Shropshire (+12,683) and Telford and Wrekin (+5,516).

Table 2.2 Projected changes in the number of women over time

	2015	2036
Shropshire	127,807	140,490
Telford & Wrekin	66,836	72,352
Affected parts of Powys	28,660	29,885
Combined catchment area	223,303	242,727

Source: ONS (2015) 2014-based subnational population projections for local authorities in England; Welsh Government (2012) 2011-based household projections for local authorities in Wales.

National evidence illustrates that while women can expect to live longer than men, they are also more likely to have more years in poor health. On average, males in England spend 59.1 years in good health and 15.9 years in poor health; for women the corresponding figures are 61.4 years and 18.6 years[5]. Women are also between two and three times more likely than men to be affected by depression and anxiety[6].

Nationally, women report similar levels of satisfaction with healthcare provision to men. For example in 2016, 62% of women said they were quite or very satisfied with NHS services compared to 63% of men[7]. Evidence on the experiences that women have of using dedicated health services for women is mainly focused maternity services (discussed in detail in Section 2.2.1). However, the 2015 National Cancer Patient Experience Survey shows that gynaecological cancer patients using SaTH services gave a higher average rating of care score (9.0) than the national average

[3] An area within the top 20% most deprived in the country.

[4] Those living in households with no access to a car or van.

[5] Step Up Consulting (2011) Keeping it in the County, A Proposal for the Future Configuration of Hospital Services in Shropshire, Telford and Wrekin.

[6] ibid

[7] The King's Fund (2017) Public satisfaction with the NHS and social care in 2016.

(8.7). These patients also generally reported more positive experiences of their diagnosis, treatment choices and care compared to national averages[8].

2.1.2 Children

There are currently just under 105,000 children living in the catchment area.

Table 2.3 Numbers and characteristics of children in the catchment area

Number of children			55,462		36,945		12,181		104,588	-
Age	0-12	*74.9%*	41,529	*77.8%*	28,760	*74.4%*	9,306	*75.9%*	79,595	*76.5%*
	13-16	*25.1%*	13,933	*22.2%*	8,185	*25.6%*	3,196	*24.1%*	25,314	*23.5%*
Living in rural area		*55.8%*	30,925	*4.2%*	1,567	*80.1%*	10,016	*40.5%*	42,508	*18.7%*
BAME population	All	*3.3%*	1,830	*11.8%*	4,360	*2.6%*	317	*6.2%*	6,506	*20.9%*
	Black	*0.2%*	111	*1.1%*	406	*0.1%*	12	*0.5%*	530	*4.8%*
	Asian	*1.1%*	610	*5.5%*	2,032	*1.1%*	134	*2.7%*	2,776	*9.7%*
	Mixed	*1.8%*	998	*4.8%*	1,773	*1.3%*	158	*2.8%*	2,930	*5.1%*
	Other	*0.1%*	55	*0.3%*	111	*0.1%*	12	*0.2%*	178	*1.3%*
Life expectancy at birth (years)			84.1		81.8		83.7		83.4	*83.0*
Disability		*3.5%*	1,941	*4.6%*	1,699	*4.0%*	487	*3.9%*	4,128	*3.8%*
Living in an area of high deprivation		*6.1%*	3,404	*31.8%*	11,757	*6.4%*	794	*15.2%*	15,955	*23.7%*
No car access[9]		*8.7%*	4,825	*17.4%*	6,428	*7.5%*	914	*11.6%*	12,167	*82.5%*

Source: ONS, 2016. Mid-2015 Population Estimates for Lower Layer Super Output Areas in England and Wales by Single Year of Age and Sex; ONS, 2015. Life Expectancy at Birth and at Age 65 by Local Areas in England and Wales (life expectancy); English Index of Multiple Deprivation 2015 and Welsh Index of Multiple Deprivation 2014 (deprivation); all other data from 2011 census.

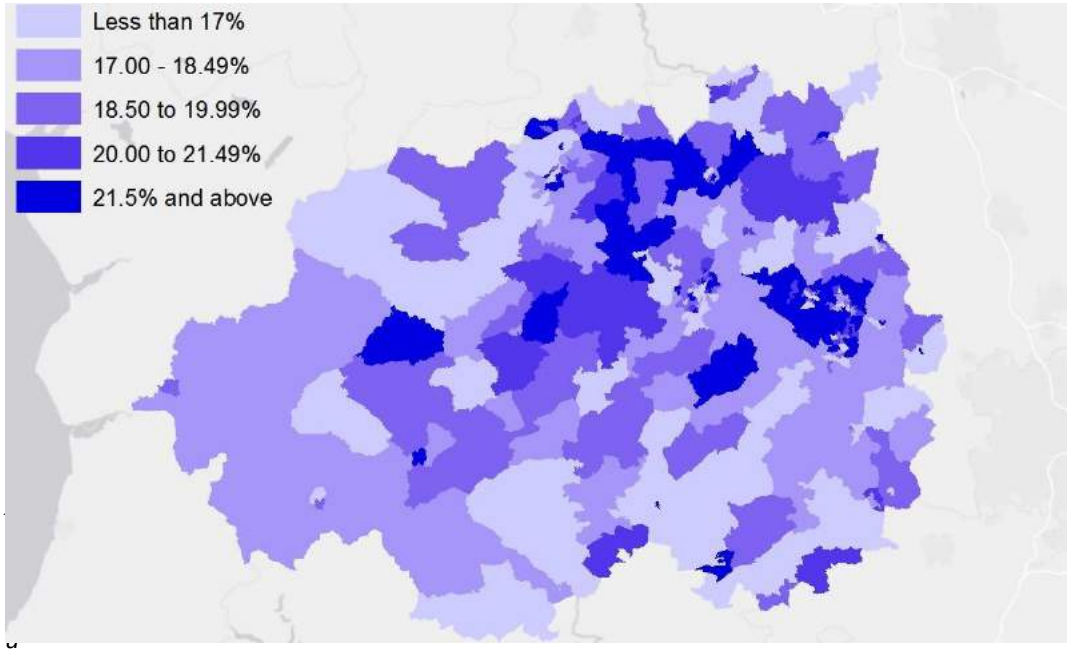
The characteristics of children in the catchment area follow a similar pattern to that of the population of adult women. Many more live in rural areas in Shropshire and Powys than they do in Telford and Wrekin. Over 10% are also from a BAME group in Telford and Wrekin, which is notably higher than in the other two areas. A significantly higher proportion also live in a deprived area. Again, most but not all children in the catchment area live in a household with one or more cars.

Children represent just under a fifth (18.8%) of the total population in the catchment area, although this does vary by area. They represent a larger proportion of the population in Telford and Wrekin (21.7%) than in Shropshire (17.8%) and the affected parts of Powys (17.2%).

[8] NHS England (2016) National Cancer Patient Experience Survey 2015 Results: The Shrewsbury and Telford Hospital NHS Trust.

[9] Those living in households with no access to a car or van.

Figure 2.1 Children as a proportion of the population



lation estimates by single year of age and sex for local authorities in the UK; © OpenStreetMap contributors, licenced under the Open Data Commons Open Database Licence

Unlike the adult population, the number of children in the catchment area is not projected to increase in future years.

Table 2.4 Projected changes in the number of children over time

	2015	2036
Shropshire	55,462	54,868
Telford & Wrekin	36,945	36,928
Affected parts of Powys	12,181	10,634
Combined catchment area	104,588	102,430

Source: ONS (2015) 2014-based subnational population projections for local authorities in England; Welsh Government (2012) 2011-based household projections for local authorities in Wales.

Detailed evidence on the health characteristics of different groups of children is provided in Section 2.2.2 but Table 2.5 illustrates infant and child mortality rates in the catchment area. Mortality rates are higher in Telford and Wrekin than in the other two areas and in comparison to national averages.

Table 2.5 Child health indicators

	Shropshire	Telford & Wrekin	Powys	National average
Infant mortality rate (per 1,000 live births)	3.1	6.5	3.8	3.9
Child mortality rate 1-17 years (per 100,000)	10.9	12.9	N/A[10]	11.9

Source: PHE (2017) Overview of child health; Public Health Wales (2016) Child deaths in Wales.

There is limited evidence available from children themselves about their experiences of hospital services – either in general or specifically for dedicated children health

[10] Data for this indicator is not recorded for Powys but the national figure for all Wales is 12.5.

services. The most comprehensive national in-patient experience survey of children under the age of 16 was conducted in 2014[11] and this found that most children reported good experiences of care, with 87% scoring their overall experience as seven or above out of 10. However parents and carers, who were also surveyed, indicated areas for improvement:

- 41% said staff were not always aware of their child's medical history before treating them;
- 32% said staff were not always available when their child needed attention; and
- 35% said they were not definitely encouraged to be involved in decisions about their child's care and treatment

Other national research has highlighted that children can have different and/or additional needs to adults when accessing hospital services. Children staying in care overnight or for a long period may require or want a parent to stay with them. The National Service Framework, 'Getting the right start: National Service Framework for Children'[12], requires facilities for parents and siblings, with suitable provision for overnight stay including access to meals and relaxation[13]. Other research into hospital care for children has emphasised the importance of making the hospital setting as much like home as possible (the environment should be bright, colourful, comfortable and non-clinical) and providing opportunities for patients to play or engage in age-appropriate activities[14].

There is little data available to draw conclusions about children's healthcare experiences specifically in the catchment area. An evaluation of epilepsy services for young people in the area[15] showed that 93% of patients and their families were satisfied with the care they received (compared to 88% in the UK). The key issues were around a lack of information provision, particularly around what children should tell other people about their condition, reasons for tests, and how to get in contact with other young people with epilepsy.

2.2 Specific groups of women and children

Women and children both represent protected characteristic groups, as defined under the 2010 Equality Act (sex and age respectively) but there are also subgroups of women and children with other protected characteristics, such as age and disability, which may mediate how they would be affected by the proposed changes.

In addition, other groups have been identified by local stakeholders as being potentially most affected by the changes: women and children living in rural areas; deprived young families; and high risk children.

The following sections present local and national evidence relevant to each of these groups.

[11] Care Quality Commission (2015) Children and young people's in-patient and day case survey 2014: National results.

[12] Department of Health (2003) Getting the right start: National Service Framework for Children Standard for Hospital Services.

[13] Healthcare Play Specialist Education Trust (2015) Exploring the impact environments have on children and young people's experience of healthcare: a review of the literature. Children's Environments of Care.

[14] Gibson F, Richardson A, Hey S, Horstman M and O'Leary C (2005) Listening to children and young people with cancer: final report.

[15] Royal College of Paediatrics and Child Health (2014) Epilepsy12 National Audit Round 2.

2.2.1 Groups of women

2.2.1.1 Pregnant and maternal women

Table 2.6 illustrates that birth, fertility and maternity rates are all higher in Telford and Wrekin than in Shropshire and Powys, and also in comparison to national averages.

Table 2.6 Birth, fertility and maternity rates by mothers' usual place of residence

	Shropshire	Telford & Wrekin	Powys	National average
Crude Live Birth Rate[16]	9.0	12.1	8.5	11.9
General Fertility Rate[17]	56.9	64.1	57.8	61.7
Total Fertility Rate[18]	1.80	1.93	1.86	1.80
Maternity Rate[19]	56.0	63.3	57.4	61.0

Source: ONS (2016) Births by mothers' usual area of residence in the UK.

Telford and Wrekin also has a higher proportion of women who are ante and postnatal, although in absolute terms there are a greater number in Shropshire due to its larger overall population.

Table 2.7 Numbers of antenatal and postnatal women

	Shropshire	Telford & Wrekin	Powys	Combined catchment area
Antenatal	2,406	1,718	478	4,603
Postnatal	1,390	1,031	306	2,727
Total	3,797	2,749	784	7,330

Source: ONS (2017) Live births by month, sex and area of usual residence of Mother, England and Wales, September 2014 to August 2016.

Table 2.8 illustrates the reported health behaviours of mothers in the catchment area, and indicates that those in Telford and Wrekin are more likely to smoke at the time of birth and less likely to breastfeed their child than the national average. These behaviours have been highlighted as risk factors for maternal and infant health by Public Health England, NICE and others[20].

Table 2.8 Health behaviours of pregnant and maternal women

	Shropshire	Telford & Wrekin	Powys	National average
Smoking at time of birth	12.3%	18.1%	18.1%	10.5%
Breastfeeding initiated	78.2%	69.3%	74.9%	72.9%
Breastfeeding at 6-8 weeks	45.9%	36.3%	45.9%	43.2%

[16] Number of live births per 1,000 population (all persons and all ages). This has been calculated using the mid-2015 population estimates.

[17] Number of live births per 1,000 women aged 15 to 44. The GFRs have been calculated using the mid-2015 population estimates.

[18] Average number of live children that a group of women would bear if they experienced the age-specific fertility rates of the calendar year in question throughout their childbearing lifespan.

[19] Number of maternities per 1,000 women aged 15 to 44. A maternity is a pregnancy resulting in the birth of one or more children, including stillbirths.

[20] See for example: Public Health England (2015) Reducing infant mortality in London; NICE (2010) Pregnancy and complex social factors: a model for service provision for pregnant women with complex social factors.

Source: SaTH NHS Trust (2017) Smoking and Breast Feeding monitoring – 2015-16; PHE (2016) Breastfeeding prevalence at 6-8 weeks after birth (by local authority).

Evidence from 2015 indicates that women's experiences of maternity services provided by SaTH were positive. Patients rated their experiences of labour and birth, of staff during birth and of their care in hospital after birth at the same (broadly positive levels) as patients nationally, with better than national scores given for satisfaction with length of stay at the hospital and cleanliness[21]. A 2015 CQC inspection report also rated SaTH maternity services as "good" and commented that:

"*The trust had recently opened the new Shropshire Women and Children's Centre at the Princess Royal site. This had seen all consultant-led maternity services and in-patient paediatrics move across from the Royal Shrewsbury site. We found that this had had a positive impact on these services*"[22].

Wider national evidence has highlighted that the opportunity for mothers to make informed choices over where and how they receive care is an important constituent of satisfaction with maternity services[23]. In addition, women value co-ordination and continuity of care (such as being seen by the same midwife or group of midwives) both before birth and during labour[24]. Evidence also suggests that continuity models can improve safety and clinical outcomes[25].

2.2.1.2 Women in different age groups

In 2015, 21.5% of all live births in England and Wales were to mothers aged 35 or over[26]. Mothers in this age group are more likely on average to experience complications during pregnancy, labour and postnatal[27]. Older age in mothers is also associated with higher rates of perinatal mortality[28] as is the likelihood of foetuses with congenital anomalies[29] and admissions of neonates to intensive care[30].

Teenage pregnancy rates have decreased considerably since the late 1990s, and in 2015 only 3.4% of all live births in England and Wales were to mothers aged under 20[31]. There are also low rates of conception among under 18s in the catchment area – although in Telford and Wrekin this is above the national average.

[21] CQC (2016) Maternity Survey 2015: Shrewsbury and Telford Hospital NHS Trust.

[22] CQC (2015) Shrewsbury and Telford Hospital NHS Trust Quality Report.

[23] NHS England (2016) National Maternity Review.

[24] ibid

[25] Sandall J, Soltani H, Gates S, Shennan A and Devane D (2015) Midwife-led continuity models versus other models of care for childbearing women.

[26] ONS (2016) Births by parents' characteristics in England and Wales: 2015.

[27] British Pregnancy Advisory Service (2017) What's the problem with older mothers?

[28] MBRRACE-UK (2016) Perinatal Mortality Surveillance Report, UK Perinatal Deaths for Births from January to December 2014.

[29] British Pregnancy Advisory Service (2017) What's the problem with older mothers?

[30] Bell J S, Campbell D M, Graham W J, Penney G C, Ryan M and Hall M H (2001) Can obstetric complications explain the high levels of obstetric interventions and maternity service use among older women? A retrospective analysis of routinely collected data. BJOG: An International Journal of Obstetrics & Gynaecology, 108: 910–918.

[31] ONS (2016) Births by parents' characteristics in England and Wales: 2015.

Table 2.9 Rates of conception among under 18s

	Shropshire	Telford & Wrekin	Powys	National
Conceptions per 1,000 women in age group	17.0	25.0	18.6	20.8

Source: ONS (2017) Conception Statistics, England and Wales.

Despite being in the minority, there is national evidence that young mothers are on average more likely to experience postnatal depression and to have repeat unplanned pregnancies[32]. Babies of young mothers are also more likely to be at risk of stillbirth and infant mortality, to be born prematurely and to be of low birthweights[33].

There is little evidence on whether women of different ages have differing experiences of using maternity services. What evidence there is suggests that young mothers are less likely on average to make early contact with healthcare service and take up pregnancy screening tests but more likely to be offered antenatal classes[34]. There is also qualitative evidence that young mothers can feel overwhelmed and disempowered by maternity services particularly when they did not feel able to build relationships of trust with midwives and other professionals[35].

2.2.1.3 Women with a disability

National evidence suggests that disabled women may use maternity services more than non-disabled women during and after pregnancy. Results a 2010 survey show that on average they had more antenatal checks and scans, and were more likely to have a caesarean section and to stay in hospital for longer after birth compared non-disabled women. However, disabled women were generally positive about their care and reported sufficient access and involvement in their care[36].

A national study also found that usage and experiences of maternity services varies by different types of disability. Physically disabled women use maternity services more, but report having less choice about labour and birth. Women with mental health disabilities also use services more, but were more critical of communication and support. Women with a learning disability and those with multiple disabilities are least likely to report a positive experience of maternity care[37].

2.2.1.4 Women of different races (including ethnic and national origin, colour and nationality)

There is national evidence that an increasing number of migrant women are seeking maternity care in the UK. Women, who have recently arrived from countries around the world, particularly those from Africa and the Indian subcontinent, but also increasingly from central Europe and the Middle East, may have relatively poor overall general health and are at risk from illnesses that have largely disappeared

[32] National Teenage Pregnancy Midwifery Network (2015) Getting maternity services right for pregnant teenagers and young fathers.

[33] ibid

[34] NPEU (2014) Safely delivered: A national survey of women's experience of maternity care.

[35] Price S (2004) Teenagers' experiences of the maternity services.

[36] Redshaw M, Malouf R, Gao H, Gray R. (2013) Women with disability: the experience of maternity care during pregnancy, labour and birth and the postnatal period. BMC Pregnancy Childbirth. 2013; 13:174

[37] ibid

from the UK, such as tuberculosis (TB) and rheumatic heart disease. Some are also more likely to be at risk of HIV infection[38]. Black African women, including asylum seekers and newly arrived refugees have a maternal mortality rate nearly six times higher than White women. To a lesser extent, Black Caribbean and Middle Eastern women also have a higher mortality rate[39].

In Telford and Wrekin during 2013 to 2015, 84% of births were to mothers born in the UK and 16% amongst mothers born outside the UK. Over a quarter (26%) of stillbirths occurred in infants of mothers born outside the UK. The highest proportion of stillbirths amongst mothers born outside the UK delivering their babies in Telford & Wrekin were seen in women born in Poland and Ghana. Births in these two groups accounted for 6% of all births during 2013-15 but represented 21% of the total stillbirths. In Shropshire during 2013-2015 10% of births were among mothers born outside the UK. In terms of stillbirths, 14% occurred in mothers born outside the UK. The highest proportion of stillbirth to non-UK born women were seen in mothers from Poland (3% of all stillbirths)[40].

Nationally, BAME women are less likely to engage with pregnancy services early, less aware of their options, report lower take-up of postnatal classes and lower involvement in decisions about antenatal care[41]. BAME mothers also consistently report lower satisfaction with their care, inequalities which are consistent even after controlling for mother's age, previous birth and health status[42].

Preferences and choices about birth and maternity services also are influenced by cultural norms and experiences. A national survey of pregnant women across 12 maternity units in England found that ethnic minority women were significantly more likely than white European women to feel unsafe if giving birth in a setting where a doctor was not immediately available (78% vs. 60%); and were more likely to consider it important to have a special care baby unit available where they gave birth (84 vs. 73%)[43].

Research highlights the importance of cultural awareness in the care of women, children and their families. For example, immigrant parents of children in hospital emphasise the importance of care providers respecting their cultural norms and values; and of care providers learning culturally competent strategies to comfort families during difficult times in the hospital[44]. The 2016 National Maternity Services Review consultation identified a need for improving experiences of maternity services for families from BAME and Gypsy and Traveller backgrounds by greater engagement between service provides and the communities, particularly at the antenatal stage[45].

The review also recommended that language needs of women should be taken into account to improve access to, and experience of, services. Appropriate, easily

[38] Step Up Consulting (2011) Keeping it in the County, A Proposal for the Future Configuration of Hospital Services in Shropshire, Telford and Wrekin.

[39] ibid

[40] Telford and Wrekin Council (2017) Overview of key routine maternal and infant population health measures.

[41] NPEU (2014) Safely Delivered: a national survey of women's experience of maternity care.

[42] CQC (2010) Maternity Survey cited in National Audit Office (2013) Maternity services in England.

[43] Lavender T, Chapple J. How women choose where to give birth. Pract Midwife. 2005; 8(7):10–5.

[44] Tavallali A G, Jirwe M and Kabir Z N (2016) Cross-cultural care encounters in paediatric care: minority ethnic parents' experiences. Scand J Caring Sci.

[45] NHS England (2016) National Maternity Review.

understandable information for women during pregnancy, birth and the postnatal period can improve the experience of those whose first language is not English or with low literacy skills[46].

2.2.1.5 Women with different religions or beliefs (including lack of belief)

The majority of women in the catchment area with a stated religion describe this as Christian. Telford and Wrekin also has a high number of Muslim, Sikh and Hindu women in comparison to Shropshire and Powys.

Table 2.10 Number of women by religious belief

	Shropshire	Telford & Wrekin	Powys	Combined catchment area
Christian	92,208	44,506	19,426	156,140
Buddhist	349	174	143	666
Hindu	132	310	51	493
Jewish	55	32	18	105
Muslim	253	876	27	1,156
Sikh	91	787	8	886
Other religion	594	353	242	1,189
No religion / not stated	30,740	17,710	8,562	57,012

Source: UK census 2011

Religious beliefs and cultural preferences can influence women's experience of maternity services. For example, Muslim women report feeling discomfort and embarrassment in the presence of male staff and male family members in labour and postnatal wards, which affects their postnatal recovery and experiences of breastfeeding[47]. Muslim women are also less likely to attend antenatal classes[48] [49].

2.2.1.6 Lesbian, gay and bisexual women

Evidence is not available on the number or distribution of lesbian, gay and bisexual women in the catchment area, but data from the National Household Survey suggests they represent around 1.6% of the population overall.

A recent UK survey found that this group is two to three times more likely to report having a longstanding psychological or emotional problem than their heterosexual counterparts, while on average they also report poorer levels of general health[50]. Levels of self-harm are also above average for this group, particularly amongst lesbian and bisexual women[51].

Despite having greater potential needs for hospital services there is evidence that these groups in the Future Fit area may be less likely to access certain services

[46] ibid

[47] Maternity Alliance (2004) Experience of Maternity Services: Muslim Women's Perspectives.

[48] ibid

[49] St George's Healthcare (undated) Assessing the Impact of St George's Maternity Services on Race Equality and Diversity

[50] Elliot M N, et al (2015) Sexual Minorities in England Have Poorer Health and Worse Health Care Experiences: A National Survey, Journal of General Internal Medicine, January 2015, Volume 30, Issue 1, pp 9–16.

[51] LGBT Foundation (2013) The Lesbian, Gay, Bisexual and Trans Public Health Outcomes Framework.

than heterosexual women. 2011 research in Shropshire and Telford and Wrekin found that 15% of lesbian and bisexual women over 25 years of age had never had a smear test (compared with 7% nationally) and less than half had been screened for sexually transmitted infections[52]. National research into this group's experiences of accessing healthcare also indicates that they have more negative experiences, on average, than heterosexual patients[53] and may face specific challenges associated with disclosing their sexuality and being visited by friends and same-sex partners in healthcare settings[54].

Lesbian mothers' accounts of maternity services in the UK report both positive and negative experiences[55]. In general, lesbian mothers report feeling included and accepted by maternity services and staff[56]; and, appreciative of the care they received[57]. However, studies also report lesbian mothers experiencing high levels of anxiety about disclosing their sexuality to professionals[58] and occasional examples of discomfort, hostility and heterophobism[59]. A review of international research also highlighted concerns around including and involving the co-mother in pregnancy, birth and post-birth interactions with healthcare[60].

2.2.1.7 Gender reassignment

Data is limited, at both a local and national level, on the current usage of women's and children's healthcare services by those undergoing or who have undergone gender reassignment. Studies of the experiences of transgendered and gender non-confirming people in general have identified certain barriers, including a lack of access to knowledgeable, competent, and trans-friendly providers[61].

Many if not most transgendered men retain their female reproductive organs and retain the capacity to have children and therefore may need to access Women's services. Clinical management of care for most cases should be within the realms of routine/standard obstetric and gynaecological practice. However, there is a need for healthcare providers to consider the mode and environment of delivery[62]. For example the British Medical Association recommends using the term "pregnant people" instead of "expectant mothers" to ensure inclusion of intersex men and

[52] Step Up Consulting (2011) Keeping it in the County, A Proposal for the Future Configuration of Hospital Services in Shropshire, Telford and Wrekin.

[53] Elliot M N, et al (2015) Sexual Minorities in England Have Poorer Health and Worse Health Care Experiences: A National Survey, Journal of General Internal Medicine, January 2015, Volume 30, Issue 1, pp 9–16.

[54] SAND (2015) Researching the hopes, fears, experiences, expectations of health & social care by older – and old - lesbian, gay, bisexual and trans people in Shropshire.

[55] Dibley L (2009) Experiences of lesbian parents in the UK: interactions with midwives. Evidence Based Midwifery: September 2009.

[56] Cherguit J, Burns J, Pettle S and Tasker F (2013) Lesbian co-mothers' experiences of maternity healthcare services. Journal of Advanced Nursing 69(6), 1269–1278.

[57] Wilton T1, Kaufmann T. (2001) Lesbian mothers' experiences of maternity care in the UK. Midwifery. 2001 Sep;17(3):203-11.

[58] ibid

[59] Dibley L (2009) Experiences of lesbian parents in the UK: interactions with midwives, Evidence Based Midwifery: September 2009.

[60] Hammond C. (2014) Exploring same sex couples' experiences of maternity care, British Journal of Midwifery 2014 22:7, 495-500.

[61] Taylor ET (2013) Transmen's health care experiences: Ethical social work practice beyond the binary. Journal of Gay and Lesbian Social Services, 25.

[62] Obedin-Maliver J and Makadon H J (2016) Transgender men and pregnancy. Obstetric Medicine. 2016;9(1):4-8.

transmen who may get pregnant[63]. Particular needs of transgendered men considering or experiencing pregnancy include pre-conception counselling on stopping testosterone and anticipating greater gender dysphoria during and after pregnancy, considering options for chest (breast) feeding and appropriate postpartum care[64].

2.2.1.8 Women who are married or in a civil partnership

Evidence suggests that this group does not have disproportionately worse experiences of health services than other women. If anything, it is single women who are more likely to have more negative experiences. For example, a 2013 survey found that single women were less likely to: make early contact with a health professional during their pregnancy; be aware of options for place of birth; be involved in decisions about their care; and report being satisfying with care during labour, birth and postnatally[65].

2.2.2 Groups of children

2.2.2.1 Children in different age groups

Neonates and infants

Shropshire was home to the largest number of neonate (aged under one month) children between September 2015 and August 2016.

Table 2.11 Number of neonates (<1 month old)

	Shropshire	Telford & Wrekin	Affected parts of Powys	Combined catchment area
Number	244	173	49	466

Source: ONS (2017) Live births by month, sex and area of usual residence of Mother, England and Wales, September 2015 to August 2016.

Children in this age range are the most likely to require specialist medical services. Nationally, approximately 1 in 10 babies will require specialist neonate care, due to premature birth and/or a medical condition that requires monitoring or specialised treatment[66]. The average length of a stay in specialist neonate care in England and Wales is eight days. It is also not uncommon for a baby in neonatal care to be transferred to another hospital, either because they need specialist care which the current hospital cannot provide or because they are getting better and can be moved to a hospital closer to home[67].

The proportion of low birthweight babies – defined as being born weighing under 2,500g – is below the national average in Shropshire and Powys, and slightly above it in Telford and Wrekin.

[63] British Medical Association (2016) Guide to Effective Communication: Inclusive Language in the Workplace.

[64] Obedin-Maliver J, and Makadon H J (2016) Transgender men and pregnancy. Obstetric Medicine. 2016;9 (1):4-8.

[65] NPEU (2014) Safely Delivered: a national survey of women's experience of maternity care.

[66] Imperial College London (2014) NDAU 2014 Report.

[67] ibid

Table 2.12 Low birthweight babies

		Shropshire	Telford & Wrekin	Powys	National average
Low birthweight babies (<2,500g)	Number	187	165	57	-
	Proportion	6.7%	7.9%	5.1%	7.4%

Source: PHE (2017) Pregnancy and birth; ONS (2017) Child Mortality Statistics; StatsWales (2017) Live births with low birth weight by area.

A national survey covering 125 neonatal units and 9,000 parents found that the least positive experiences of neonatal care related to: a lack of emotional support or counselling services; restrictions on visits or overnight stays; and a lack of information on issues ranging from financial support to the baby's condition and medical treatment[68]. Respondents were least positive about the care and support they received once their baby had been discharged from the neonatal unit. Around 9% said they would have liked, but did not receive, contact with neonatal staff following their baby's discharge[69].

Children in older age groups

There is comparatively less evidence on the health and healthcare experiences of children in older age groups, and like-for-like comparisons between English and Welsh areas are not possible on all indicators. Nonetheless, Table 2.13 provides comparisons by area where possible.

Table 2.13 Health indicators for children in older age groups

	Shropshire	Telford & Wrekin	Powys	National average
Unintentional and deliberate injury hospital admissions for children aged up to 5 (per 10,000 of children in that age group)	139.2	191.8	-	140.8
Children receiving 2 doses of MMR vaccine by age 5 (%)	93.4	94.0	86.8	88.6
Mean number of decayed/filled/missing teeth in children age 5	0.8	0.9	1.15	0.8
Children aged 4-5 who are overweight or obese (%)	20.9	25.5	24.5	22.3
Children aged 10-11 who are overweight or obese (%)	31.0	37.4	-	34.2
HPV vaccination coverage for two doses (females 13-14 years old) (%)	80.1	85.1	78.5	85.1

Source: Public Health Outcomes Framework, 2017; Public Health Wales, 2016. Pregnancy and childhood surveillance tool 2016; Public Health Wales, 2017. Vaccine Uptake in Children in Wales; PHE, 2016. Oral health survey of five-year-old children 2015; Cardiff University, 2016. Picture of Oral Health 2016.

There are also some health indicators for Shropshire and Telford and Wrekin based on hospital episode data - see Table 2.14 below. No directly equivalent data is published for Powys but it is likely that children from the parts of Powys in the

[68] Howell E and Graham C (2011) Parents' experiences of neonatal care: a report on the findings from a national survey. Picker Institute Europe

[69] ibid

catchment area are represented in the Shropshire data and possibly also to a small extent in the Telford and Wrekin data.

Table 2.14 Hospital episode data for children

		Shropshire	Telford & Wrekin	National average
A&E attendances (0-4 years)	Number	5,350	4,438	-
	Rate per 1,000[76]	355.1	393.6	587.9
Hospital admissions caused by injuries to children (0-14 years)	Number	573	446	-
	Rate per 10,000[77]	119.0	136.3	104.2
Hospital admissions caused by injuries to young people (15-24 years)	Number	422	290	-
	Rate per 10,000[78]	125.4	130.8	134.1
Hospital admissions as a result of self-harm (per 100,000 of population aged 10-24 years)	Number	199	138	-
	Rate per 100,000[79]	392.0	423.0	430.5
Persons under 18 admitted to hospital for alcohol-specific conditions	Number	73	37	-
	Rate per 100,000[80]	40.5	31.6	36.6
Hospital admissions due to substance misuse (15-24 years)	Number	58	40	-
	Rate per 100,000[81]	58.3	60.8	95.4

Source: Public Health England (2017) Overview of child health.

Adolescents report the poorest experience of NHS services of any age group, partly because of their changing age and developmental status[82]. Adolescence is also a period of emerging autonomy, where young people's increasing capacity to be responsible for their own health care decisions needs to be taken into account by both parents and staff. A review of the Young Patient Survey (2007) compared the experience of young people cared for in an adolescent ward with those nursed either in children's or adult facilities[83]. 15-17 year olds nursed in an adult ward reported significantly poorer experiences across a range of issues relating to confidentiality; feeling secure; being treated with respect; having confidence in staff; being involved in their care and the availability of leisure facilities. An important issue is therefore the transition to adult services[84].

[76] Crude rate per 1,000 (aged 0-4 years) of A&E attendances, 2015/16

[77] Crude rate per 10,000 (aged 0-14 years) for emergency hospital admissions following injury, 2015/16

[78] Crude rate per 10,000 (aged 15-24 years) for emergency hospital admissions following injury, 2015/16

[79] Directly standardised rate per 100,000 (aged 10-24 years) for hospital admissions for self-harm, 2015/16

[80] Persons admitted to hospital due to alcohol-specific conditions – under 18 year olds, crude rate per 100,000 population, 2012/13-2014/15

[81] Directly standardised rate per 100,000 (aged 15-24 years) for hospital admissions for substance misuse, 2013/14-2015/16

[82] Hargreaves and Viner (2012) cited in Kossarova L, Devakumar D, Edwards N (2016) Briefing: The future of child health services: new models of care. Nuffield Trust.

[83] National Steering Group for Specialist Children's Services (undated) Report of the Age Appropriate Care Working Group.

[84] Care Quality Commission (2014) From the pond into the sea: children's transition to adult health services.

2.2.2.2 Children with a disability

Children with disabilities have poorer health than average and are therefore likely to be more frequent users of hospital services (including those not directly related to their disability). There is also national evidence that children with mental health issues or a physical or learning disability are more likely on average to have negative experiences of using hospital services. The 2015 CQC children and young people's survey[85] found that whilst children and parents overall rated their experiences of in-patient and day services positively, children with a mental health condition or physical or learning disability had poorer scores. In particular:

- 81% of parents whose children did not have mental health conditions, physical or learning disabilities said the ward their child stayed on had appropriate equipment and adaptions their child needed, compared to only 64% of parents whose children had a physical disability and 68% of those with children with a mental health condition or learning disability.
- 59% of parents of children without specific needs felt staff were aware of their child's medical history, compared to 45% of parents of children with a physical disability and 49% of those with children with a mental health condition or learning disability.
- 49% of parents of children with a physical disability, and 48% of those with children with a mental health condition or learning disability felt staff knew how to care to their child's individual or special needs.

2.2.2.3 Children and gender reassignment

A recent NHS study found that the incidence of gender dysphoria[86] in children and adolescents aged 4-15 presenting to secondary or tertiary care services per year is 1.6 per 100,000 in the UK[87]. Given that this figure only reflects those presenting to paediatric or psychological services, and not those who choose not to or are unable to access this care, the actual incidence rate in the general population is likely to be higher. The same study suggests that the average age of presentation is mid-adolescence (14.68 years old).

Evidence suggests that experiencing gender dysphoria can correlate with severe distress; the three most common associated difficulties which these children and adolescents report encountering in their daily lives are bullying (47%), low mood/depression (42%) and self-harming behaviours (39%)[88].

2.2.2.4 Children of different races (including ethnic and national origin, colour and nationality)

National level data indicates that ethnic minority children are more likely than average to be overweight or obese by the time they are 10-11 years old.

[85] Care Quality Commission (2015) Children and young people's in-patient and day case survey 2014.

[86] Gender dysphoria is a condition where a person experiences discomfort or distress because there's a mismatch between their biological sex and gender identity. It's sometimes known as gender identity disorder (GID), gender incongruence or transgenderism (NHS Choices, 2017).

[87] NHS (2017) NHS Standard Contract for Gender Identity Development Service for Children and Adolescents.

[88] Holt, Skagerberg and Dunsford (2014) cited in NHS (2017) Standard Contract for Gender Identity Development Service for Children and Adolescents.

Table 2.15 Overweight and obese children by ethnicity, England

	4 to 5 years old	10 to 11 years old
White	22.2%	32.2%
Mixed	22.0%	36.5%
Asian	18.1%	39.2%
Black	29.5%	44.8%
Other	22.2%	40.6%
Average (all children)	22.2%	34.1%

Source: PHE (2017) Public Health Outcomes Framework.

The language needs of children from BAME and other groups have also been identified as a potential issue affecting healthcare. For example, a report looking at the experiences of Welsh speakers using health and social care services in Wales and England in 2011[89] found that parents and carers were often dissatisfied by the lack of Welsh-speaking members of staff, as it impacted on their child's healthcare assessments (i.e. speech and language therapy, hearing tests, etc.). Parents of disabled children also said they felt English-medium services were inappropriate and therefore ineffective for their children. Parents suggested that young, monolingual Welsh children should be offered a Welsh-medium service without parents being expected to ask for this, especially if children are in hospital for an extended period of time.

2.2.2.5 Children with different religions or beliefs (including lack of belief)

The religious beliefs of children in the catchment area largely mirrors that of the adult female population – with Christian being the dominant religion in all areas but with Muslim and Sikh children also represented, most notably in Telford and Wrekin.

Table 2.16 Number of children by religious belief

	Shropshire	Telford & Wrekin	Affected parts of Powys	Combined catchment area
Christian	35,611	18,383	6,638	60,632
Buddhist	103	60	32	195
Hindu	80	198	49	328
Jewish	10	14	3	27
Muslim	234	1,168	32	1,434
Sikh	42	501	5	548
Other religion	113	78	25	217
No religion / not stated	16,441	13,445	4,776	34,662

Source: UK census 2011

2.2.2.6 Male and female children

The needs of growing children and young people are likely to reflect their gender, especially at the onset of puberty, and this may affect their experience of care. In 2014 In-patient Surveys, males aged 0–11 were less likely than adults to be

[89] IAITH (2012) Welsh Speakers' Experiences of Health and Social Care Services. IAITH: Welsh Centre for Language Planning for the Department for Health, Social Services and Children, Welsh Government and the Care Council for Wales.

satisfied with their care overall[90]. In the In-patient Survey (2009), females aged 16-24 were significantly less likely than older patients to report a positive experience on all four measures of care (felt involved in care and treatment, had confidence and trust in doctors, treated with respect and dignity, overall good care).

2.2.2.7 Lesbian, gay and bisexual children

No data is available, at either a local or national level, on the current usage of children's healthcare services by lesbian, gay, bisexual (LGB), or questioning children. However, evidence suggests that the harassment and rejection that LGB or questioning adolescents face may lead to greater health risks and worse health outcomes[91]. Such adolescents are more likely to report poor mental health, suicidal ideation and attempts, substance use, risky sexual behaviours, disordered eating behaviours, and victimisation when compared with heterosexual adolescents.

Some studies have also found LGBT parents have had poor experiences accessing healthcare services for their children. For example, a systematic literature review investigating the experience of LGBT parents[92] found that although many parents have positive experiences of health care, some still experience discrimination and prejudice.

2.2.3 Other groups

2.2.3.1 Women and children living in rural areas

Table 2.3 at the start of this chapter provided the overall proportions of women and children living in a rural area, and Table 2.17 below provides a further breakdown for children of different ages.

Table 2.17 Children up to 16 years old in rural areas

	Shropshire		Telford & Wrekin		Affected parts of Powys		Combined catchment area	
Age (years)	0-12	13-16	0-12	13-16	0-12	13-16	0-12	13-16
Number	23,058	9,230	1,199	457	7,735	2,941	31,992	12,628
% of all children aged 0 to 16	55.4	59.2	4.4	5.1	79.8	82.8	40.6	44.9

Source: UK census 2011

There is limited evidence on the experiences of this group in relation to hospital services. What evidence there is focuses on travel to access maternity services. For example a previous national study found that rural mothers travelled on average 12 km further to access in-patient maternity services than those in urban areas[93].

[90] Hargreaves D and Viner R (2014) Children's and young people's experience of the National Health Service in England: a review of national surveys 2001–2011.

[91] Coker T (2009) Health and Healthcare for Lesbian, Gay, Bisexual, and Transgender Youth: Reducing Disparities through Research, Education, and Practice. Journal of Adolescent Health: Editorial.

[92] Shields L, Zappia T, Blackwood D, Watkins R, Wardrop J and Chapman R (2012) Lesbian, gay, bisexual, and transgender parents seeking health care for their children: a systematic review of the literature.

[93] Propper C, Damiani M, Leckie G, Dixon J, Propper C, Damiani M, et al. (2007) Impact of patients' socioeconomic status on the distance travelled for hospital admission in the English National Health Service. Journal of Health Services & Research Policy 2007;12(3):153-9.

Households in rural parts of the catchment area are more likely to have access to a car than those in urban areas. However, overall 11.5% of rural households do not have access to a car in their household. This is illustrated in the table below.

Table 2.18 Rural households with no access to a car

	Shropshire	Telford & Wrekin	Affected parts of Powys	Combined catchment area
Number	7,947	320	3,539	11,806
% of all rural households without car in household	11.0%	7.7%	13.5%	11.5%

Source: UK census 2011

Analysis of current and projected journeys times to access women and child services from different parts of the catchment area, by car and public transport, is provided in chapter 3 of this report.

One previous study also reviewed the impact of a change from consultant-led care to midwife-led care in a rural town in England. It found that while the change provided increased choice, it had disadvantaged pregnant women who preferred giving birth in a consultant-led unit. They faced longer travel times to access the nearest consultant-led unit outside the town[94]. Research in rural / remote areas of Scotland, Australia and Canada also found that many local women chose to travel for a longer distance to a consultant-led unit rather than access a midwife-led unit or opt for a home birth. Safety (perceived and actual) for themselves and their baby was a key determinant of their choice. Preferences are, however, strongly determined by a woman's individual experiences, beliefs and circumstances with some preferring shorter travel times and local midwife-led settings[95].

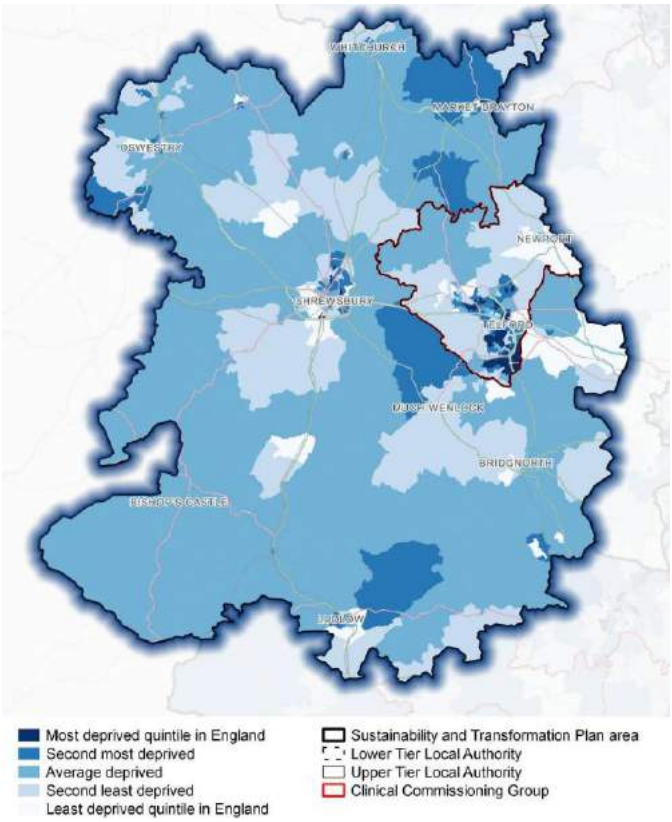
2.2.3.2 Deprived young families

Despite the low overall levels of deprivation in the catchment area, Telford and Wrekin and Shropshire contain certain areas that are amongst the 20% most deprived in England. A total of 14,093 people in Shropshire, and 45,326 people in Telford and Wrekin live in areas that are amongst the 20% most deprived nationally. Proportionately, the highest rates of deprivation are in the Telford and Wrekin localities of Lakeside South, The Wrekin, and Hadley Castle.

[94] Watts K, Fraser D M and Munir F (2003) The impact of the establishment of a midwife managed unit on women in a rural setting in England. Midwifery 2003; 19 (2):106-12.

[95] Redshaw M, Hamilton K, Rowe R, Jomeen J, Newburn M and Bhavnani V (2009) Life events research paper – having a baby.

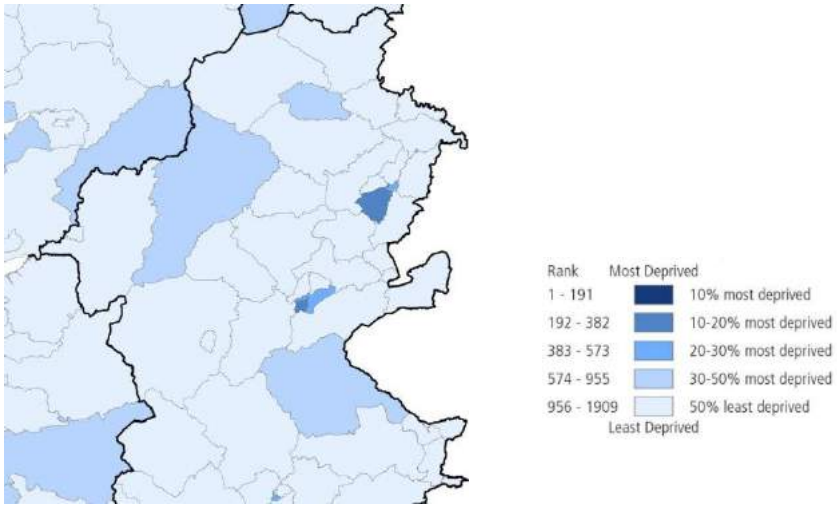
Figure 2.2 Deprivation in Telford and Wrekin and Shropshire



Source: DCLG (2015) England Index of Multiple Deprivation.

The affected parts of Powys contain two areas that are amongst the 20% most deprived in Wales (Welshpool Castle; and Newtown South), with a combined population of 3,448.

Figure 2.3 Deprivation in Powys



Source: Welsh Government (2014) Wales Index of Multiple Deprivation.

Section 2.1 also illustrated that proportions of women and children in the catchment area population live in areas that are classified within the most deprived nationally, and that this proportion is highest in Telford and Wrekin. The proportion of children

in living in low-income families[96] is also relatively high in Telford and Wrekin, as illustrated in Table 2.19.

Table 2.19 Children aged 0-15 in low-income families

	Shropshire	Telford & Wrekin	Powys	National average
Number	6,740	8,390	1,515	-
Proportion	13.0%	24.0%	12.1%	20.1%

Source: Personal tax credits: HMRC Children in low-income families local measure.

High perinatal mortality is directly linked with mothers living in areas of high deprivation and with young age of the mother. This suggests that deprived, young mothers and their neonates are particularly at risk of experiencing poor health outcomes[97]. For example, in Shropshire mothers from the two most deprived groups accounted for 20% of all the births between 2002 and 2006, but they accounted for 25% of all stillbirths and 29% of perinatal deaths[98].

The health situation of children from deprived young families may also be directly linked to their living situation. For example, children and young people from poorer backgrounds are more likely to become obese and develop mental and emotional health difficulties. Young people from deprived backgrounds are also more likely to become teenage parents, engage in riskier behaviours and have parents with poorer health outcomes[99].

There is also some evidence to suggest that pregnant mothers from deprived areas have a preference for delivering their babies in consultant-led settings. A systematic review found that women planning home-births and births in midwife-led settings were more likely to be older and live in more socio-economically advantaged areas[100].

2.2.3.3 High risk children

A range of factors may elevate a child's risk of experiencing more negative health outcomes.

The following two tables illustrate the prevalence in the catchment area of two groups of children known to be at particular risk: looked after children; and young offenders. In both cases they represent a large proportion of the population of young people in Telford and Wrekin than in Shropshire, Powys and nationally.

Table 2.20 Looked after children

	Shropshire	Telford & Wrekin	Powys	National average
Number	280	300	78	658
Rate per 1,000 young people	4.6	7.7	5.7	5.8

[96] Those in receipt of: Child Tax Credit and with an income of less than 60% of the median income; Income Support; or Jobseekers Allowance.

[97] MBRRACE-UK (2016) Perinatal Mortality Surveillance Report, UK Perinatal Deaths for Births from January to December 2014.

[98] Step Up Consulting (2011) Keeping it in the County, A Proposal for the Future Configuration of Hospital Services in Shropshire, Telford and Wrekin.

[99] ibid

[100] Brocklehurst P (2011) Perinatal and maternal outcomes by planned place of birth for healthy women with low risk pregnancies: the Birthplace in England national prospective cohort study, BMJ 2011; 343: d7400.

Source: Department for Education (2017) Children looked after in England including adoption: 2015 to 2016; Stats Wales (2016) Children looked after.

Table 2.21 Young people sentenced (including non-custodial sentences)

	Shropshire	Telford & Wrekin	Powys	National average
Number	187	164	22	373
Rate per 1,000 young people	6.2	9.4	3.1	6.9

Source: Ministry of Justice (2016) Young people sentenced, year ending March 2015.

Access to high quality care in an appropriate setting is particularly important for high risk children. For example, looked after children show significantly higher rates of mental health issues, emotional disorders such as anxiety and depression, hyperactivity and autistic spectrum disorder conditions than other children[101]. Another group that may have more healthcare needs are young carers, who are more likely to have a long-term illness or disability. This is supported by census data which showed that over 2,000 young carers had bad or very bad health problems[102].

2.3 Users of Women's and Children's services

The figures in this section are based on SaTH 2015/16 patient data. Some patients are likely to have accessed more than one Women and Children's service within this time period, and will be represented more than once in the figures. Therefore the true number of individual users will be lower than these figures suggest. Nonetheless the figures provide a robust guide to the distribution of users between different service types and between each hospital. They also provide some insight into the characteristics of users, in terms of their age, ethnicity and level of deprivation.

In total there were 48,455 users of SaTH Women's and Children's services in 2015/16. 36,091 were users of Out-patient Women's services and 7,356 were users of In-patient Women's services. 1,860 were users of Out-patient Children's services and 3,148 were users of In-patient Children's services. Almost all in-patient services were accessed at PRH, while out-patient services were split between the two hospitals (and some other sites). Table 2.22 provides further breakdowns by service type and by site.

Table 2.22 Numbers of users of Women's and Children's services in 2015/16

	PRH	RSH	Other	Total
Women Out-patient services				
Gynaecology Out-patients	4,186	3,896	28	8,110
Maternity Out-patients	3,963	1,573	691	6,227
Maternity Scan	2,976	1,516	412	4,904
Other Ward Attender	3,358	454	419	4,231
Midwifery Out-patients	1,760	1,028	1,140	3,928
Community Midwifery	1,623	1,019	1,140	3,782
Early Pregnancy Assessment	1,434	620	-	2,054

[101] Royal College of Paediatrics and Child Health, Royal College of Nursing and Royal College of General Practitioners (2015) Facing the Future: together for child health.

[102] The Children Society (2013) Hidden from view: the experiences of young carers in England.

	PRH	RSH	Other	Total
Colposcopy Procedure	995	675	-	1,670
Pregnancy Day Assessment	611	574	-	1,185
Women In-patient services				
Gynaecology Day case	702	389	-	1,091
Gynaecology In-patients	1,813	1	-	1,814
Consultant Delivery	1,941	-	-	1,941
Consultant Antenatal	1,410	-	-	1,410
Midwife Delivery	309	157	249	715
Consultant Postnatal	370	-	-	370
Colposcopy Procedures	12	3	-	15
Children Out-patient services				
Children's Assessment Unit	990	604	-	1,594
Neonates Out-patients	197	69	-	266
Children In-patient services				
Children's In-patient	2,220	2	-	2,222
Children's Assessment Unit	761	-	-	761
Neonatal Ward	165	-	-	165

Source: SaTH 2015/16 data

The average length of stay varies between different In-patient Women's and Children's services – from less than a day for colposcopy procedures, gynaecology and children's in-patients to over two weeks for neonatal ward patients.

Table 2.23 Average length of stay by users of In-patient Women's and Children's services in 2015/16

	Average length of stay (days)
Women In-patient services	
Gynaecology In-patients	0.83
Consultant Delivery	1.88
Consultant Antenatal	2.68
Midwife Delivery	1.52
Consultant Postnatal	1.76
Colposcopy Procedure	0.67
Children In-patient services	
Children's In-patient	0.74
Children's Assessment Unit	1.69
Neonatal Ward	15.5

Source: SaTH 2015/16 data

Most users of pregnancy and maternity services are in the 20-29 and 30-39 age ranges. Users of colposcopy and gynaecology services have a slightly older age and include more in the 40-49, 50-59 and 60+ age ranges. The age profile of users of Children's services is clearly differentiated between neonatal and non-neonatal services. Children less than one year old account for most users of neonatal services while children in older age groups are represented more in other Children's services.

Table 2.24 Ages of users of Women's and Children's services in 2015/16

	>1	1-9	10-19	20-29	30-39	40-49	50-59	60+
Women Out-patient services								
Colposcopy Procedure			1%	29%	27%	23%	14%	7%
Community Midwifery			6%	44%	43%	6%		
Early Pregnancy Assessment			6%	42%	41%	9%	1%	2%
Gynaecology Out-patients			3%	20%	29%	18%	10%	19%
Maternity Out-patients			5%	32%	31%	33%		
Maternity Scan			6%	43%	44%	7%		
Midwifery Out-patients			6%	44%	43%	7%		
Other Ward Attender			6%	40%	40%	8%	2%	4%
Pregnancy Day Assessment			6%	47%	42%	5%		
Women In-patient services								
Colposcopy Procedure				13%	33%	27%	13%	13%
Gynaecology Day case			1%	11%	20%	27%	20%	22%
Gynaecology In-patients			4%	24%	22%	20%	12%	18%
Consultant Delivery			6%	45%	43%	5%		
Midwife Delivery			4%	51%	43%	2%		
Consultant Postnatal			3%	46%	46%	4%		
Consultant Antenatal			6%	44%	43%	8%		
Children Out-patient services								
Children's Assessment Unit	16%	58%	26%					
Neonatal Out-patients	61%	36%	3%					
Children In-patient services								
Children's Assessment Unit	6%	51%	32%					
Children's In-patient	17%	59%	26%					
Neonatal Ward	100%							

Source: SaTH 2015/16 data

Most users of Women's and Children's services are White British. The highest proportions of women and children from other ethnic groups are amongst users of maternity, midwife, consultant delivery and child in-patient services.

Table 2.25 Ethnicity of users of Women's and Children's services in 2015/16

	White British	White Other	Asian or Asian British	Black or Black British	Mixed	Other
Women Out-patient services						
Gynaecology Out-patients	84%	7%	4%	2%	2%	1%
Maternity Out-patients	75%	12%	5%	2%	3%	1%
Maternity Scan	70%	14%	7%	3%	4%	2%
Other Ward Attender	81%	8%	6%	2%	3%	1%
Midwifery Out-patients	68%	15%	8%	3%	5%	2%
Community Midwifery	69%	15%	7%	3%	5%	2%
Early Pregnancy Assessment	83%	8%	3%	2%	3%	1%
Colposcopy Procedure	92%	4%	2%	1%	1%	1%

	White British	White Other	Asian or Asian British	Black or Black British	Mixed	Other
Pregnancy Day Assessment	82%	11%	4%	1%	2%	1%
Women In-patient services						
Gynaecology Day case	88%	4%	2%	1%	1%	1%
Gynaecology In-patients	91%	4%	2%	1%	1%	1%
Consultant Delivery	63%	13%	9%	4%	9%	2%
Consultant Antenatal	79%	10%	5%	3%	3%	1%
Midwife Delivery	84%	10%	3%	1%	1%	2%
Consultant Postnatal	78%	12%	6%	1%	1%	2%
Colposcopy Procedure	86%	7%				7%
Children Out-patient services						
Children's Assessment Unit	79%	5%	7%	2%	6%	1%
Neonates Out-patients	80%	8%	5%	3%	2%	1%
Children In-patient services						
Children's In-patient	71%	8%	9%	2%	9%	1%
Children's Assessment Unit	87%	4%	4%	1%	4%	1%
Neonatal Ward	69%	11%	7%	5%	7%	

Source: SaTH 2015/16 data

As is the case with the overall population of women and children in the catchment area, most users of Women and Children do not live in areas of high deprivation. Nonetheless a proportion do live in areas of high deprivation, and this proportion is largest amongst users of consultant delivery and antenatal services, and all children in-patients services.

Table 2.26 Deprivation of users of Women's and Children's services in 2015/16

	Proportion of users who live in an area that is amongst the 10% most deprived nationally
Women Out-patient services	
Gynaecology Out-patients	5%
Maternity Out-patients	6%
Maternity Scan	7%
Other Ward Attender	7%
Midwifery Out-patients	7%
Community Midwifery	7%
Early Pregnancy Assessment	6%
Colposcopy Procedure	5%
Pregnancy Day Assessment	7%
Women In-patient services	
Gynaecology Day case	4%
Gynaecology In-patients	6%
Consultant Delivery	8%
Consultant Antenatal	8%
Midwife Delivery	5%
Consultant Postnatal	6%
Colposcopy Procedure	-

	Proportion of users who live in an area that is amongst the 10% most deprived nationally
Children Out-patient services	
Children's Assessment Unit	7%
Neonates Out-patients	5%
Children In-patient services	
Children's In-patient	8%
Children's Assessment Unit	8%
Neonatal Ward	8%

Source: SaTH 2015/16 data

3 Health and Access Impacts and Equality Effects: Women's services

Clinical effectiveness

- The main change options (B and C1) are expected to sustainably improve the effectiveness of clinical care provided to the affected population. However, some caveats exist for Women's services, for example the majority of day cases being handled at the site where emergency care is not located, has implications for high risk cases and workforce rota systems.

Patient safety

- The main change options (B and C1) are expected to sustainably improve the safety of clinical care provided to the affected population. However, some caveats exist for Women's services, for example there needs to be some way of identifying high risk, complex cases that necessitate instant access to emergency services.

Patient experience

- The main change options (B and C1) are expected to sustainably improve patient experience of clinical services for the affected population. However, some caveats exist for Women's services, for example the influence of lifestyle associated risk factors on use of emergency gynaecology services and distance between the location of the midwife-led unit and the consultant-led unit.

Access to gynaecology day case services

- 798 journeys to these services would potentially be affected each year under Option B. Average journey times would increase by 3.4 minutes (car) or 3.1 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- 333 journeys to these services would potentially be affected each year under Option C1. Average journey times would decrease by 0.4 minutes (car) but increase by 2.6 minutes (public transport). By area, journey times would be shorter from Bridgnorth, Hadley Castle, Lakeside and the Wrekin but longer from other areas.
- Older women, BAME women and those living in more deprived areas are more likely to have longer journey times under Option B but shorter journey times under Option C1.

Access to gynaecology in-patient services

- 2,419 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 5.5 minutes (car) or 4.3 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- Older women, BAME women and those living in more deprived areas are more likely to have longer journey times under Option C1.

Access to consultant-led antenatal ward (ending in birth episode)

- 1,782 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 9.6 minutes (car) or 8.2 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- Younger women, BAME women and those living in more deprived areas are more likely

to have longer journey times under Option C1.

Access to consultant-led antenatal ward (not ending in birth episode)

- 666 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 6.2 minutes (car) or 8.2 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- Younger women, BAME women and those living in more deprived areas are more likely to have longer journey times under Option C1.

Access to consultant-led delivery ward (ending in birth episode)

- 1,765 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 6.9 minutes (car) or 8.5 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- Younger women, BAME women and those living in more deprived areas are more likely to have longer journey times under Option C1.

Access to consultant-led delivery ward (not ending in birth episode)

- 795 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 8.8 minutes (car) or 10.7 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- Younger women, BAME women and those living in more deprived areas are more likely to have longer journey times under Option C1.

Access to consultant-led postnatal ward

- 289 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 6.9 minutes (car) or 8.3 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from other areas.
- BAME women and those living in more deprived areas are more likely to have longer journey times under Option C1.

Transfers from Midwife-led Units

- There were 334 transfers from midwife-led units to the consultant led unit at PRH in 2015/16. Under Option C1, the journey times of transfers to the consultant led unit (which would be relocated to RSH) would increase by an average of 5 minutes.
- By area, the journey time of transfers from midwife-led units in The Wrekin and Bridgnorth would increase, while they would decrease from midwife-led units elsewhere.

Crosscutting impacts and equality effects

- Awareness and understanding of the detail of the proposed changes to Women's and Children's services is currently low amongst the affected population, which is likely to be mediating the concerns and views they currently have.
- Perceptions of the existing Women's and Children's services at PRH are very positive, prompting questions about value for money of the proposed changes and a need for reassurance that any relocated services would meet the same standards.
- Journey times to access the affected services is shared concern for women and children amongst all protect characteristic equality groups. Equally, specific combinations of

characteristics and circumstances may lead to particular differential effects.

This chapter presents evidence on the projected health and access impacts and equality effects of the proposed changes to Women's services. This is based primarily on the outcomes from the IIA Clinical workshop and the statistical analysis of journey times. Individual health and access impacts, and resultant equality effects, are each considered in the following sections.

The final section in this chapter also draws on wider evidence (from the engagement activities conducted as part of the Future Fit public engagement to date and Powys Equalities Impact Assessment, and interviews with stakeholders and representatives of equalities groups) on issues that cut across more than one element of health or access.

3.1 Clinical effectiveness

3.1.1 Nature of potential impact

Experience of care, clinical effectiveness and patient safety make the three key components of quality in the NHS. Good care is linked to positive outcomes for the patient and is also associated with high levels of staff and patient satisfaction. The effectiveness of clinical care services is expected to improve following the reconfiguration of services, as Emergency Medicine and General Surgical services become collocated with maternity and gynaecology inpatient services.

3.1.2 Baseline in a "do minimum" scenario

The effectiveness of current services is supported by the collocation of inpatient services for women and children that was achieved in 2014 following consolidation onto the PRH site (albeit with increased travel times for patients and staff from the western side of the area). However, this previous change left one Emergency Department without on-site support from women's services and resulted in the separation of those services from General Surgical services. This reduces patient access to specialist senior clinical decision makers on both sites, potentially resulting in sub-optimal care.

Obstetrics and Gynaecology are distinct specialisms for which staff recruitment is known to be difficult and problematic, although the changes made in 2014 are reported by SaTH to have improved the recruitment and retention of key staff, it is likely that some staff faced additional travel requirements as a result of that change.

Under the current configuration, the number of patients using consultant-led units over midwife led units has increased locally.

3.1.3 Likelihood and timescale of impact

On completion of reconfiguration it is likely that the expected clinical effectiveness benefits of the proposals in options B and C1 would begin to be realised immediately and that they would be enduring.

3.1.4 Direction and scale of impact - overall

The main change options B and C1 are expected to sustainably improve the effectiveness of clinical care provided to the affected population, through the consolidation of Women's and Children's services with a more effective emergency service (including emergency general surgery) that offers enhanced consultant cover.

Specific benefits expected include the following:

- Confirmation of a decision on either options B or C1 will also provide greater certainty for the workforce, which may instil confidence and commitment to the service. This may have a positive impact on workforce recruitment and retention.
- In both options B and C1, the collocation of emergency services with inpatient women's services allows for quicker reviews and seamless surgical pathways that avoid transfers and thereby contribute to improved outcomes for patients.
- In option C1, the collocation of emergency services with inpatient Women's and Children's services will provide access to expertise, which is available less frequently at RSH under the current configuration.

Options B and C1 both propose that the majority of day cases for the gynaecology specialty should be handled at the site where emergency care is not located (RSH in option B and PRH in option C1). Not only will this have implications for workforce rota systems, as priority may be given to dealing with emergency care on the other site, but this configuration in both options is based on the assumption that 'high risk' gynaecology day cases are readily identified in advance. However, this assumption was not strongly supported by clinicians who attended the IIA workshop, giving rise to additional risks:

- A greater proportion of gynaecology day cases being performed on the same site as emergency care (PRH in option B and RSH in option C1), failing to achieve the benefits of separation of services as the service becomes more vulnerable to disruption from Emergency patients; and

Gynaecology day case patients being operated on at the site where emergency care is not located (RSH in option B and PRH in option C1) and subsequently being identified as high risk. This may present a patient safety risk if appropriate clinical support is not available or if the patient needs to be immediately transferred. Further work is required to ensure all clinicians are satisfied with the clinical processes proposed for identification of higher risk day case gynaecology patients.

3.1.5 Direction and scale of impact - by area

The impact of clinical effectiveness is likely to be influenced by the services immediately accessible to patients, within a locality. This is especially important in the case of remote localities. Efforts towards improving services for remote populations are recommended by clinicians and these are detailed in the final chapter of this report.

3.1.6 Potential equality effects

The programme's expectation is that clinical effectiveness benefits would apply specifically to patients of Obstetrics and Gynaecology and as women are the heaviest users of Women's and Children's services, they would benefit from a positive effect from the projected improvements in clinical effectiveness. It could also

be said that the greater benefits will accrue to those women who are higher users of hospital services than the general population. This includes: younger women, older women, women with a disability, LGBT groups, BAME groups and women living in deprivation.

3.2 Patient safety

3.2.1 Nature of potential impact

Experience of care, clinical effectiveness and patient safety make the three key components of quality in the NHS. Good care is linked to positive outcomes for the patient and is also associated with high levels of staff and patient satisfaction. The consolidation of services is expected to address a number of potential safety issues with the current configuration, and these are set out below.

3.2.2 Baseline in a "do minimum" scenario

Specific safety issues in the "do minimum" scenario include the following:

- Surgical support to women's services at PRH whilst the main surgical base is at RSH creating risks particularly out of hours when surgeons undertaking day case procedures at PRH would have left.
- There is a lack of acute Gynaecology surgical services at RSH to support general surgery, and a corresponding lack of general surgery support for Women's and Children's services at PRH.
- Inpatient theatre provision is misaligned.
- The provision of medical services on both sites is fragile with rotas being maintained through the use of locums and by making short term urgent service changes.
- Inter hospital transfers from speciality to speciality are required, resulting in poor flow and prolonged hospital stays.

The impact of the above safety concerns are amplified in the case of certain groups, such as the learning disabled, younger women, high risk pregnancies and those with socio-economic disadvantages.

3.2.3 Likelihood and timescale of impact

On completion of reconfiguration it is likely that the expected patient safety benefits of the proposals would begin to be realised immediately and that they would be enduring.

3.2.4 Direction and scale of impact - overall

The main change options B and C1 are expected to sustainably improve the safety of clinical care provided to the affected population, through the consolidation of Women's and Children's services with a more effective emergency service that offers enhanced consultant cover.

Specific benefits expected include the following:

- Collocation of single site delivery for emergency care with inpatient women's services ensures timely access to senior decision makers.

- Unified pathways for care reduce variation and the risks inherent in this.
- All emergency care would benefit from access to all specialities in a crisis. Although the absence of some gynaecology surgeons attending to day cases at the site where emergency care is not located (RSH in option B and PRH in option C1), needs to be acknowledged.
- Seven day working would more likely be deliverable on both sites with increased presence of senior decision makers reducing risk of sub-optimal care.

However, some additional questions surrounding the direction and scale of impact remain:

- There needs to be some way of identifying high risk, complex cases that necessitate instant access to emergency services. Time to treatment is a critical element of this that needs to be considered.

3.2.5 Direction and scale of impact - by area

The impact of patient safety is likely to be influenced by the services immediately accessible to patients, within a locality. This is especially important in the case of remote localities. Time to treatment in the case of high risk, complex cases needs some consideration. Efforts towards improving services for remote populations are recommended by clinicians and these are detailed in the final chapter of the report.

3.2.6 Potential equality effects

The programme's expectation is that patient safety benefits would apply specifically to patients of Obstetrics and Gynaecology and as women are the heaviest users of Women's and Children's services, they would benefit from a positive effect from the projected improvements in patient safety. It could also be said that the greater benefits will accrue to those women who are higher users of hospital services than the general population. This includes: younger women, older women, women with a disability, LGBT groups, BAME groups and women living in deprivation.

3.3 Patient experience

3.3.1 Nature of potential impact

Experience of care, clinical effectiveness and patient safety together make the three key components of quality in the NHS. Good care is linked to positive outcomes for the patient and is also associated with high levels of staff and patient satisfaction. Patient experience of clinical care services is expected to improve following the reconfiguration of services, as specialist workforce is consolidated into stable and sustainable clinical teams. Any impact (positive or negative) on their experience of accessing services (in terms of journey times) is reported later in this chapter.

3.3.2 Baseline in a "do minimum" scenario

Patient experience of current services is adversely impacted as a result of the following factors:

- There is variable access to senior decision makers in emergency medicine particularly out of hours.

- The current separation of services across two sites creates confusion for patients and relatives as to which services are available at the respective sites.

3.3.3 Likelihood and timescale of impact

On completion of reconfiguration it is likely that the expected patient experience benefits of the proposals would begin to be realised immediately and that they would be enduring.

3.3.4 Direction and scale of impact - overall

The main change options B and C1 are expected to sustainably improve patient experience of clinical services for the affected population. Experience benefits and disbenefits arising from changes to journey times are reported separately.

Specific benefits expected include the following:

- There would be fewer delays in accessing senior clinical decision-makers in an emergency.
- Adverse impacts arising from the current separation of the centre for complex surgery centre and the Women's and Children's Centre are significantly reduced.
- Patients of the Women's and Children's service will be seen in the most appropriate service and facility and by the most appropriate staff as patients are 'streamed' based on their clinical need.
- Seven day working will facilitate timely and appropriate discharge from the Women's and Children's service.
- The separation of Planned Care from Emergency Care for Women's and Children's services enables the 'protection' of scheduled care activity at times of increased demand for unscheduled care resulting in improved 'referral to treatment' times and fewer cancellations – fewer delays and cancellations leads to improved patient experience.

However some additional considerations relating to the direction and scale of impact are as follows:

- There needs to be an assessment of risk factors within the population that make certain groups of patients more likely to use gynaecology services. Some lifestyle associated risk factors may also necessitate gynaecology day case treatment in the Emergency Department, potentially disadvantaging patients whose surgery at the site of emergency care is vulnerable to cancellation.
- Increased distance between the midwife-led unit and the consultant led-unit has, in the past, given rise to patient anxiety. Collocation of these services is likely to reduce such anxiety for patients at the midwife-led unit on the emergency care site (PRH under option B and RSH under option C1).

3.3.5 Direction and scale of impact - by area

The impact of patient experience is likely to be influenced by the services immediately accessible to patients, within a locality. This is especially important in the case of remote localities. Efforts towards improving services for remote populations are recommended by clinicians and these are detailed in the final chapter of the report.

Patient travel costs to attend gynaecology day cases at the site where emergency care is not located (RSH in option B and PRH in option C1), need to be acknowledged. Conversely, patient travel may be mitigated through the availability of Women's and Children's services at the same site as emergency care.

3.3.6 Potential equality effects

The programme's expectation is that patient experience benefits would apply specifically to patients of Obstetrics and Gynaecology and as women are the heaviest users of Women's and Children's services, they would benefit from a positive effect from the projected improvements in patient experience. It could also be said that the greater benefits will accrue to those women who are higher users of hospital services than the general population. This includes: younger women, older women, women with a disability, LGBT groups, BAME groups and women living in deprivation.

3.4 Access to gynaecology day case services

3.4.1 Nature of potential impact

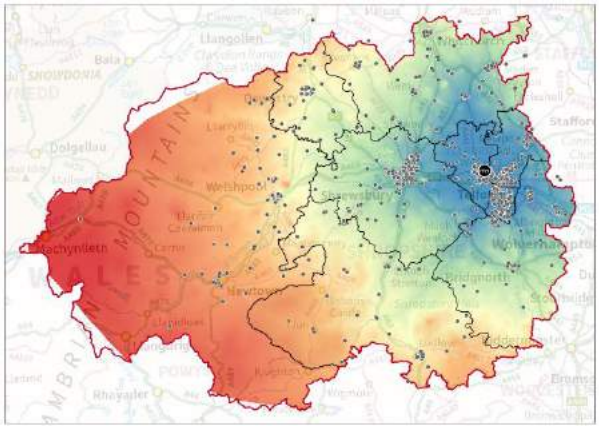
Gynaecology day case services are currently provided at both hospital sites. Under Option B, the vast majority would be provided at RSH[103]. Under Option C1, Gynaecology day case services at PRH only. This could impact on journey times to access these services. Almost all day case admissions are planned, therefore no time-critical impacts are anticipated.

3.4.2 Baseline in a "do minimum" scenario

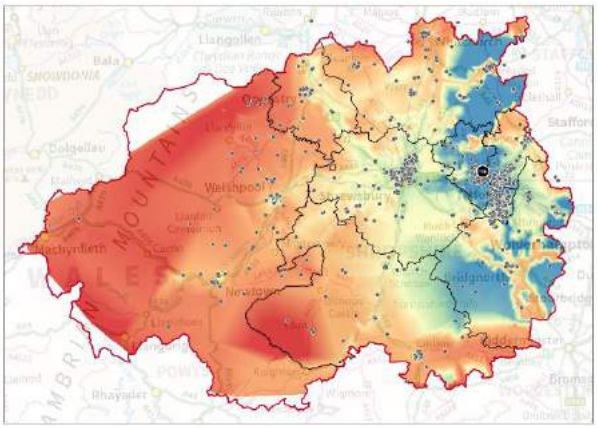
Baseline data indicates there were 1,135 day case in-patient spells of care at SaTH hospitals in 2015/16 and for which a different journey could be required across one of the options. A significantly higher number attend at PRH than RSH.

Figure 3.1 Baseline patient locations and journey times

Patient locations and journey times to PRH by car



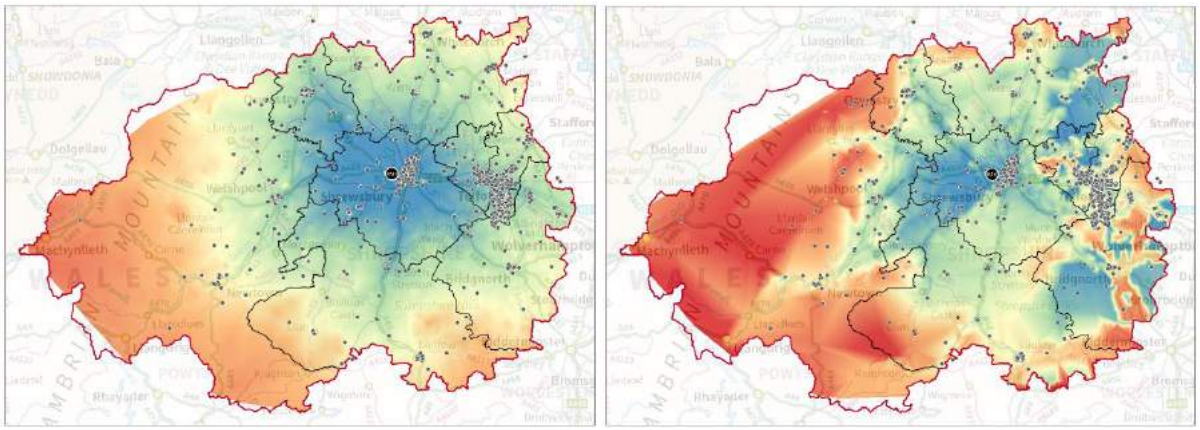
Patient locations and journey times to PRH by PT



Patient locations and journey times to RSH by car

Patient locations and journey times to RSH by PT

[103] Although this is only intended to be for the 'vast majority' of cases, we have assumed that 100% of journeys will change in lieu of a clear definition of minority cases.



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The average current journey time for the whole set of patients is 25.2 minutes with an average distance travelled of 15.3 miles by car/van and with an average time of 68.8 minutes by Public Transport.

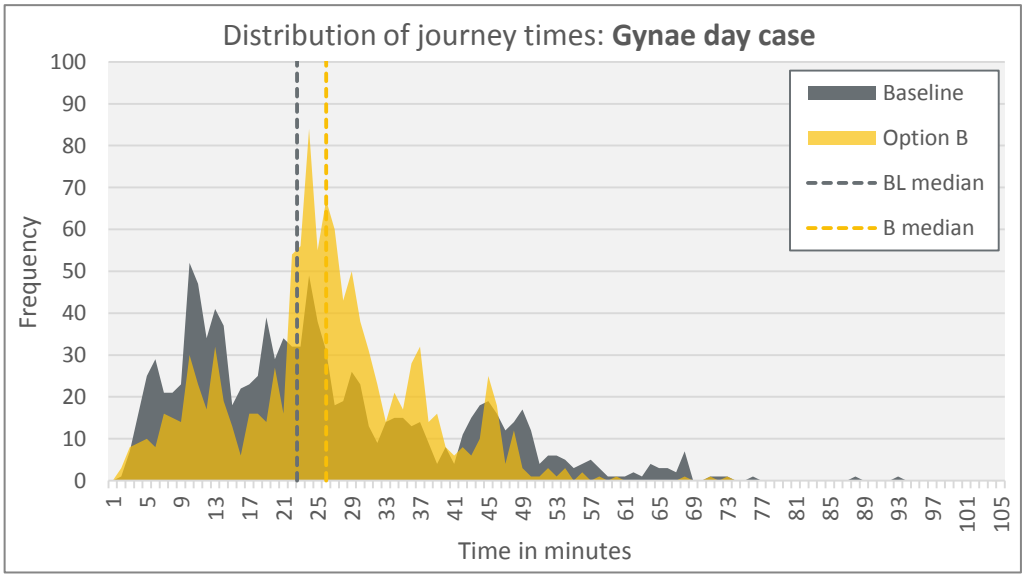
3.4.3 Likelihood and timescale of impact

Assuming the switch of services to an alternative site occurs overnight with no phased or parallel running, the impacts will be felt immediately. As the activity detailed above are the totals for 1 year, it would take 12 months for the full impact to be felt across this whole cohort of patients. Some women on wards at the time of the switch may require an internal transfer to the new site.

3.4.4 Direction and scale of impact - overall

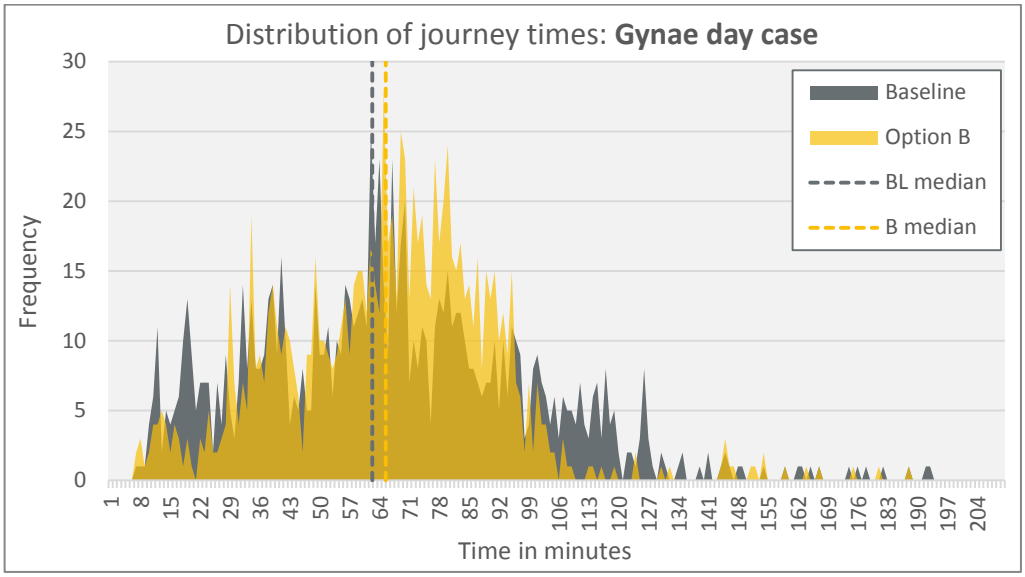
OPTION B. Under this option for this service, 447 journeys would take longer and 351 would be quicker. The change across the whole future fit footprint for women who use this service would be an increase in median journey time of 3.4 minutes (car) or 3.1 minutes (public transport) and an extra distance on average of 2.5 miles.

Figure 3.2 Journey times for baseline and Option B – car/van travel



Source: SaTH 2015/16 data; Strategy Unit analysis.

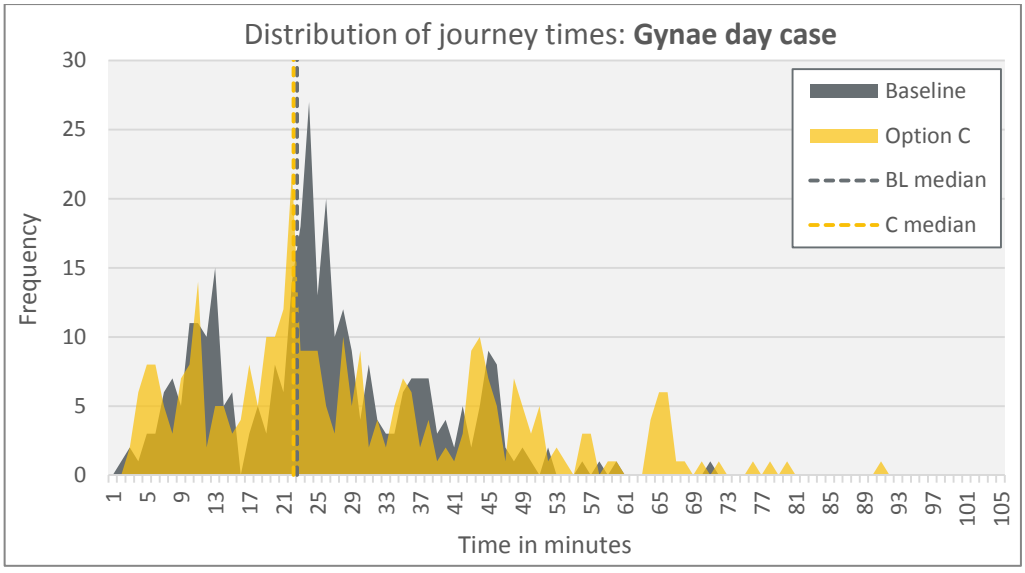
Figure 3.3 Journey times for baseline and Option B – travel by Public Transport



Source: SaTH 2015/16 data; Strategy Unit analysis.

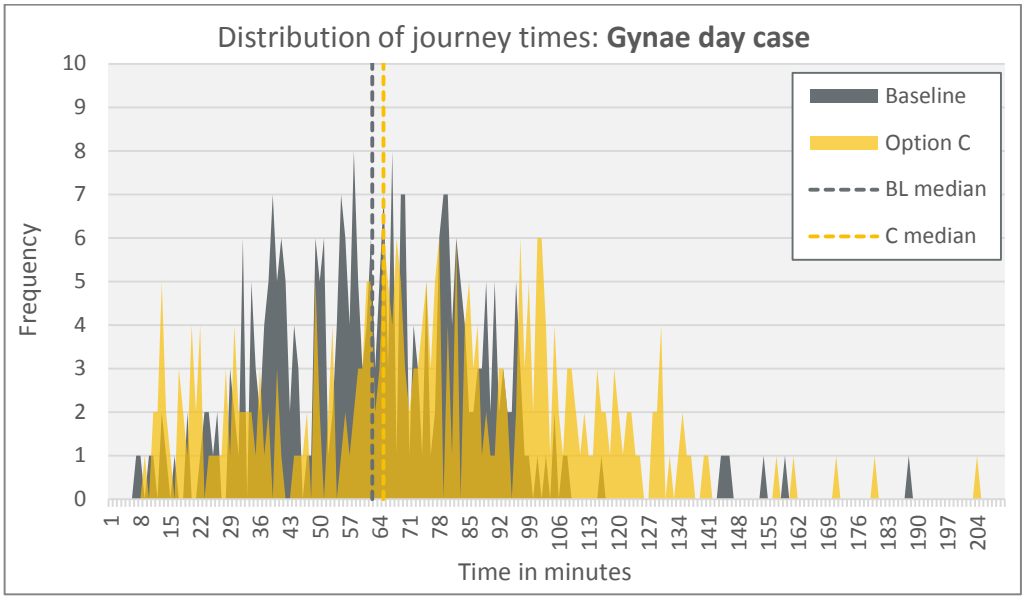
OPTION C1. Under this option for this service, 206 journeys would take longer and 127 would be quicker. The change across the whole future fit footprint for women who use this service would be a reduction in median journey time of 0.4 minutes (car) or increase of 2.6 minutes (public transport) and an extra distance on average of 2.5 miles.

Figure 3.4 Journey times for baseline and Option C1 – car/van travel



Source: SaTH 2015/16 data; Strategy Unit analysis.

Figure 3.5 Journey times for baseline and Option C1 – travel by Public Transport



Source: SaTH 2015/16 data; Strategy Unit analysis.

3.4.5 Direction and scale of impact – by area

OPTION B. Generally speaking, this change in service benefits women living in Oswestry, Powys, Shrewsbury & Atcham and South Shropshire in terms of access by either car/van or public transport. Women living in Bridgnorth, North Shropshire, Hadley Castle, Lakeside South and the Wrekin would generally have to travel further and longer for their scheduled care.

Table 3.1 Journey times for Option B – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
New time (car) mins	31.5	33.2	24.6	11.4	39.1	28.7	27.4	23.1	37.7
Change from base	9.9	3.0	-20.0	-12.7	-8.2	17.0	13.1	14.6	-20.0
New dist (car) mls	23.0	21.3	16.8	4.8	24.9	21.4	20.2	16.7	24.4
Change from base	10.6	2.2	-14.8	-9.9	-4.7	16.2	13.4	13.5	-14.9
New time (PT) mins	73.8	53.2	65.9	33.5	46.0	77.5	76.3	72.2	54.8
Change from base	7.7	-24.2	-40.2	-34.4	-23.9	32.6	23.1	44.5	-28.3

Source: SaTH 2015/16 data; Strategy Unit analysis.

OPTION C1. Generally speaking, this change in service benefits women living in Bridgnorth, Hadley Castle, Lakeside and the Wrekin in terms of access by either car/van or public transport. Women living in North Shropshire (by car), Oswestry, Shrewsbury, South Shropshire and Powys would generally have to travel further and longer for their scheduled care.

Table 3.2 Journey times for Option C1 – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
New time (car) mins	27.1	30.8	44.9	23.5	46.0	11.1	14.0	8.0	61.2
Change from base	-7.2	-1.7	19.9	12.5	11.0	-17.2	-12.6	-15.2	20.0
New dist (car) mls	15.5	19.7	31.9	14.4	29.4	5.0	6.6	2.9	42.1
Change from base	-7.8	-1.1	14.6	9.9	6.8	-16.3	-12.7	-14.1	14.9
New time (PT) mins	78.1	87.2	101.6	65.2	79.6	42.6	46.3	23.2	92.2
Change from base	-5.4	27.5	37.6	29.6	29.4	-33.3	-19.5	-47.8	27.3

Source: SaTH 2015/16 data; Strategy Unit analysis.

3.4.6 Potential equality effects

OPTION B. Age - Whilst women of all ages could have both shorter and longer journeys the greatest negative impact would be felt by those aged 40-44 and over 65. Younger women (under 25) although small in number are likely on the whole to benefit from shorter journeys.

Ethnic origin – The majority of women using this service are of White-British origin and a marginally greater number of these would need to travel further than nearer. This change would disproportionately affect Indian women, those from 'Other' black backgrounds and White-Irish with further travel however the numbers are very low.

Deprivation – Virtually all journeys in this cohort from the most deprived 10% of areas (using IMD deciles) of Future Fit (39 from 41) would be further and longer under this option. The effect reverses along the deprivation scale and in the most affluent 10 % of areas, the majority of journeys (19 from 30) would be nearer and quicker by any mode of transport.

OPTION C1. Age - Whilst women of all ages could have both shorter and longer journeys the negative impact is felt consistently by those aged 30-59 and those over 70.

Ethnic origin – The vast majority of women using this service are of White-British origin (94%) and a greater number of these would need to travel further than nearer. Very few women of minority groups use RSH for gynaecology day case care so are not affected by this option.

Deprivation – Journeys in this cohort from the most deprived 30% of areas (using IMD deciles) of Future Fit (40 from 65) would be nearer and quicker under this option. The negative effects would tend to be felt by more affluent areas, the majority of journeys (60 from 87 in least deprived 30%) would be further and longer by any mode of transport.

3.5 Access to gynaecology in-patient services

3.5.1 Nature of potential impact

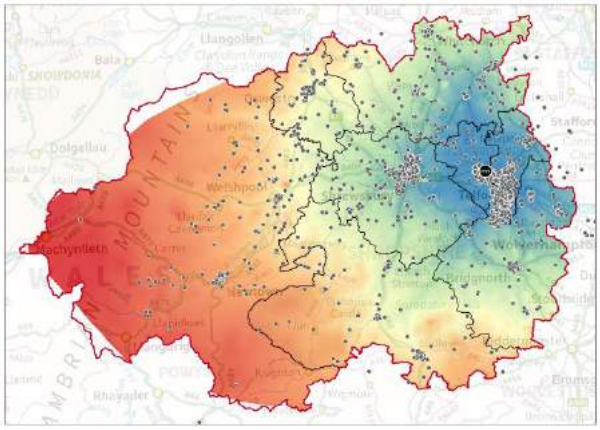
No changes to gynaecology in-patient services are proposed under Option B. Under Option C1 these services would be relocated from PRH to RSH. The impact on access to services would be for women admitted for gynaecology assessment and treatment having to travel to RSH site rather than PRH as currently. As women across all of the Future Fit footprint use PRH for gynaecology services there are likely to be some with better access and some with worse access as a result of this change. The vast majority of this care is part of a planned pathway.

3.5.2 Baseline in a "do minimum" scenario

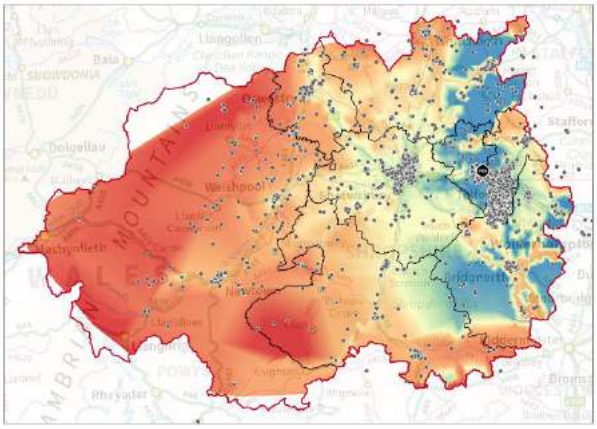
Baseline data indicates there were 2,892 separate spells of care at the relevant PRH in-patient ward. After exclusion of day cases (already assessed above) there are 2,419 spells that may be affected. No women are currently admitted to RSH for this type of care.

Figure 3.6 Baseline patient locations and journey times

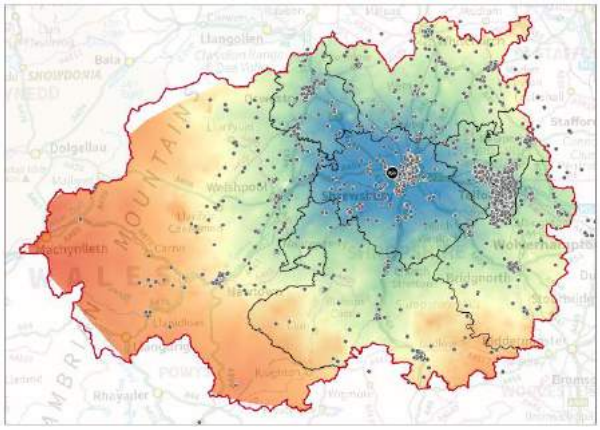
Patient locations and journey times to PRH by car



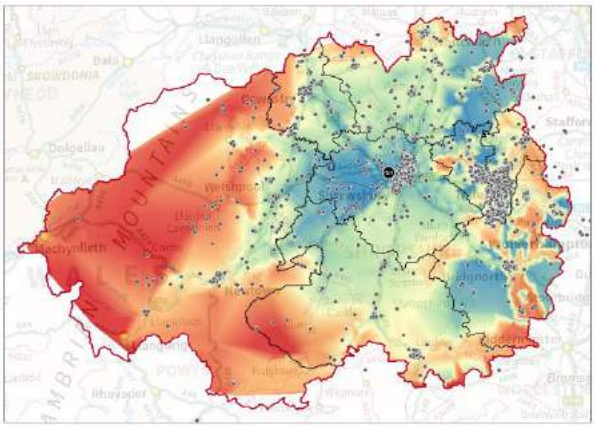
Patient locations and journey times to PRH by PT



Patient locations and journey times to RSH by car



Patient locations and journey times to RSH by PT



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The average current journey time for the whole set of patients is 24.2 minutes with an average distance travelled of 14.7 miles by car/van and with an average time of 68.9 minutes by Public Transport. This varies by locality.

Table 3.3 Baseline journey times – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
Journeys	188	272	113	492	94	380	288	295	184
Avg. time car (mins)	23.9	29.3	44.3	23.5	46.3	10.9	14.7	8.6	58.6
Avg. dist car (mls)	13.8	18.9	31.6	14.4	29.5	4.7	7.2	3.4	40.0
Avg. time PT (mins)	74.2	87.3	103.8	63.9	83.2	41.5	53.7	28.0	93.0

Source: SaTH 2015/16 data; Strategy Unit analysis.

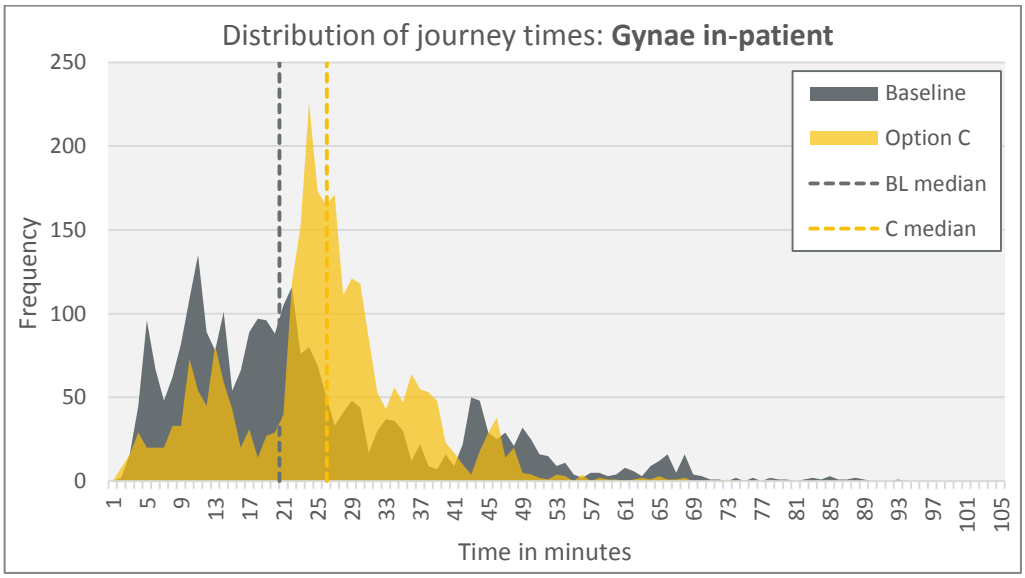
3.5.3 Likelihood and timescale of impact

Assuming the switch of services to an alternative site occurs overnight with no phased or parallel running, the impacts will be felt immediately. As the activity detailed above are the totals for 1 year, it would take 12 months for the full impact to be felt across this whole cohort of patients. Some women on wards at the time of the switch may require an internal transfer to the new site.

3.5.4 Direction and scale of impact - overall

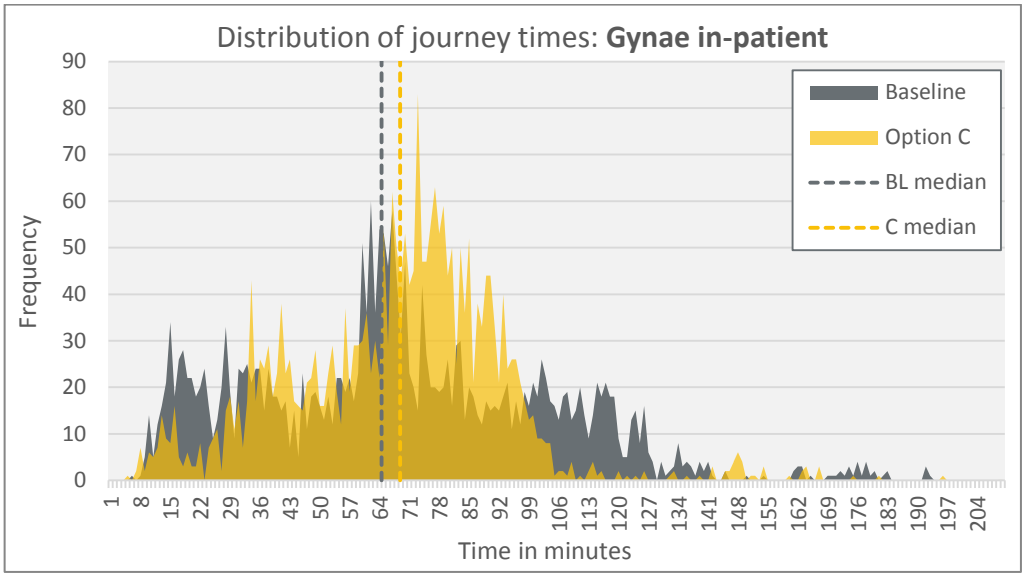
Under Option C1, 1,345 journeys would take longer and 958 would be quicker. The change in median travel across the whole future fit footprint for women who use this service would be an increase of 5.5 minutes (car) or 4.3 minutes (public transport) and an extra distance on average of 2.9 miles per patient.

Figure 3.7 Journey times for baseline and Option C1 – car/van travel



Source: SaTH 2015/16 data; Strategy Unit analysis.

Figure 3.8 Journey times for baseline and Option C1 – travel by Public Transport



Source: SaTH 2015/16 data; Strategy Unit analysis.

3.5.5 Direction and scale of impact – by area

Generally speaking, Option C1 benefits women living in Oswestry, Powys, Shrewsbury & Atcham and South Shropshire in terms of access by car/van and additionally North Shropshire by public transport. Women living in Bridgnorth, Hadley Castle, Lakeside South and the Wrekin would generally have to travel further and longer to be admitted.

Table 3.4 Journey times for Option C1 – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
New time (car) mins	33.1	33.6	24.3	11.2	37.2	28.0	27.8	23.8	38.7
Change from base	9.2	4.3	-20.0	-12.3	-9.1	17.1	13.1	15.3	-19.9
New dist (car) mls	23.5	22.0	16.7	4.4	24.0	21.0	20.7	17.5	25.2
Change from base	9.7	3.1	-14.9	-10.0	-5.5	16.3	13.5	14.0	-14.8
New time (PT) mins	80.7	61.5	61.5	32.9	56.4	77.6	74.8	73.2	59.5
Change from base	6.5	-25.8	-42.3	-30.9	-26.8	36.1	21.1	45.2	-33.5

Source: SaTH 2015/16 data; Strategy Unit analysis.

Whilst the above assumes that all patients admitted to the gynaecology ward would have first travelled to the main emergency site (RSH in Option C1), in reality they may have first presented at A&E or the UCC.

It is not possible with the data extracts used for this IIA to identify all these patients and estimate their presentation choice or pre-admission pathway however we can

derive the following using alternative SUS data for SaTH providers for the same period.

Of the activity admitted to the ward at PRH, 13 were transferred from RSH therefore those children would not have needed the transfer under Option C1.

557 women were admitted via A&E. Of those we estimate 22.9% (128) were ambulance conveyed therefore would have been taken directly to RSH site under Option C1. The remainder might have attended either the A&E at RSH or the UCC at PRH. Nearest-site analysis of the IIA data suggests 131 would self-convey to RSH leaving up to 298 women subsequently admitted who might have attended the UCC at PRH and therefore require an internal site transfer.

3.5.6 Potential equality effects

Age - Whilst women of all ages may be affected with shorter or longer journeys the greatest negative impact would be felt by those under 25 with twice the numbers having longer journeys than shorter (302 from 455). The impact is also felt in women aged 35-44 (279 from 448) and there are similar numbers of closer and further journeys for all other age groups.

Ethnic origin – The majority of women using this service are of White-British origin (89%) and around 30% more of these would need to travel further than nearer. This change would disproportionately affect Asian (33 out of 41) and Black (27 out of 30) ethnic groups journeys.

Deprivation – The vast majority of journeys in this cohort from the most deprived 10% of areas (using IMD deciles) of Future Fit (183 from 200) would be further and longer under this option. The effect reduces gradually along the deprivation scale and in the most affluent 20 % of areas, a minority of journeys (118 from 266) would be further and longer by any mode of transport.

3.6 Access to consultant-led antenatal ward (ending in birth episode)

3.6.1 Nature of potential impact

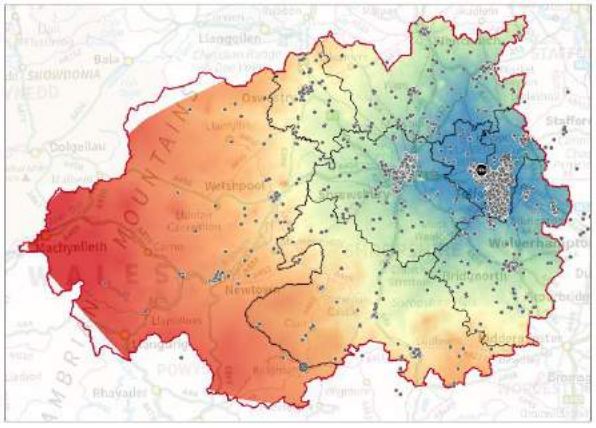
The impact on access to services would be for pregnant mothers admitted antenatally having to travel to RSH site rather than PRH as currently. As mothers across all of the Future Fit footprint use PRH for consultant-led maternity services there are likely to be some with better access and some with worse access as a result of this change. The change in journey time would generally be short (under 20 minutes), however there is a small chance that some women may progress significantly in labour during that time.

3.6.2 Baseline in a “do minimum” scenario

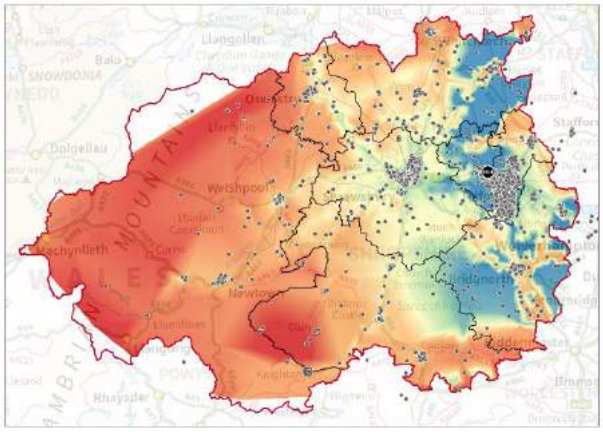
Baseline data indicates there were 2,448 women who attended for a spell of care at the relevant PRH inpatient ward. However, only 1,782 were episodes that ended with the birth of a baby/babies and for whom a different journey would be required in this option. No women are currently admitted to RSH for this type of care.

Figure 3.9 Baseline patient locations and journey times

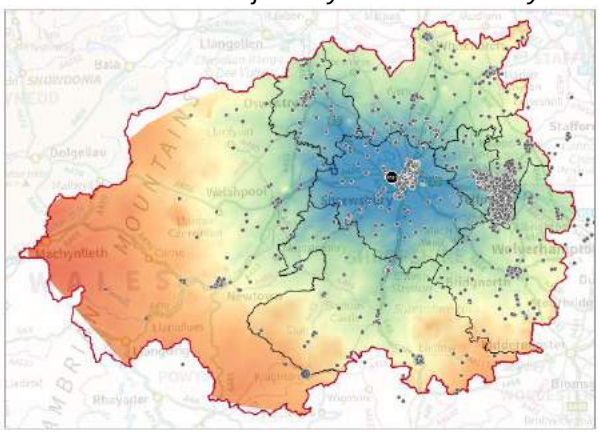
Patient locations and journey times to PRH by car



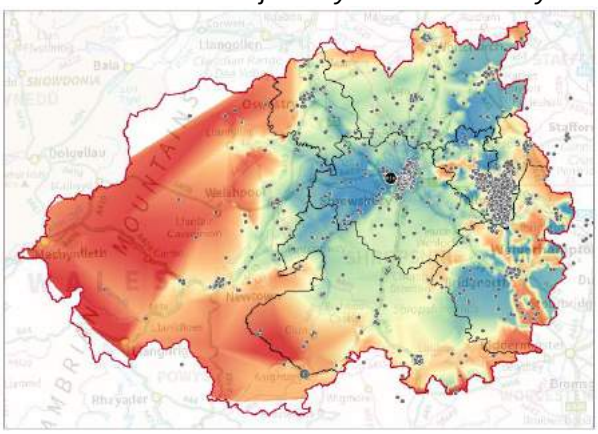
Patient locations and journey times to PRH by PT



Patient locations and journey times to RSH by car



Patient locations and journey times to RSH by PT



Source: Strategy Unit analysis; Contains Ordnance Survey data © Crown copyright and database right 2014 and National Statistics data © Crown copyright and database right 2011, 2013, 2016.

The average current journey time for the whole set of patients is 22.8 minutes with an average distance travelled of 13.7 miles by car/van and with an average time of 61.7 minutes by Public Transport. This varies by locality:

Table 3.5 Baseline journey times – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
Journeys	147	188	82	382	83	330	212	255	103
Avg. time car (mins)	26.0	28.0	44.5	23.2	47.9	10.8	14.5	9.2	59.2
Avg. dist car (mls)	15.3	18.0	31.8	14.1	30.5	4.7	7.1	3.7	40.6
Avg. time PT (mins)	73.7	89.1	102.9	62.8	85.5	41.3	52.4	29.5	102.1

Source: SaTH 2015/16 data; Strategy Unit analysis.

3.6.3 Likelihood and timescale of impact

Assuming the switch of services to an alternative site occurs overnight with no phased or parallel running, the impacts will be felt immediately. As the activity detailed above are the totals for 1 year, it would take 12 months for the full impact to be felt across this whole cohort of patients. Some women and their babies on wards at the time of the switch may require an internal transfer to the new site.

3.6.4 Direction and scale of impact - overall

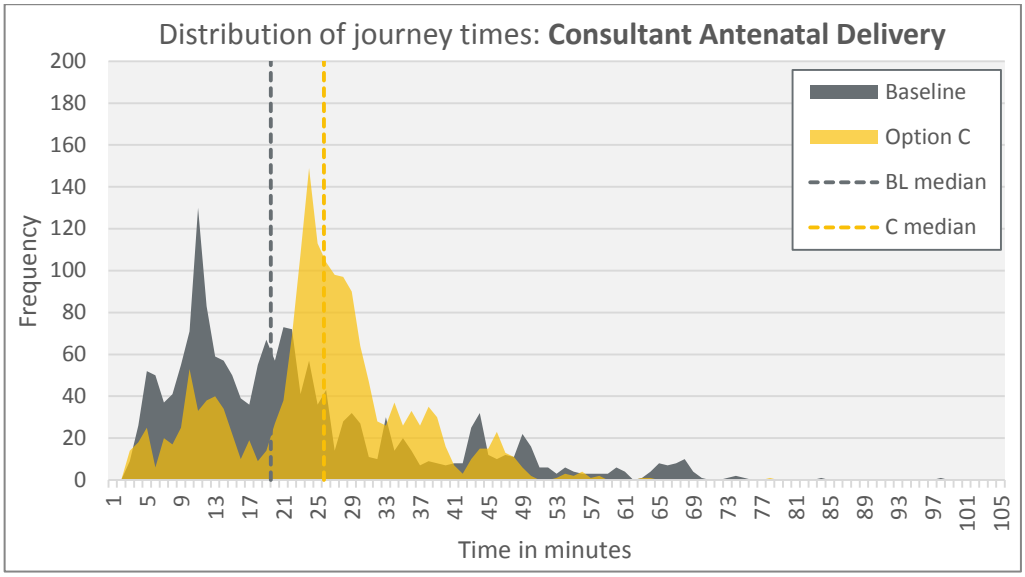
OPTION B.

There is no change of service proposed under Option B.

OPTION C1.

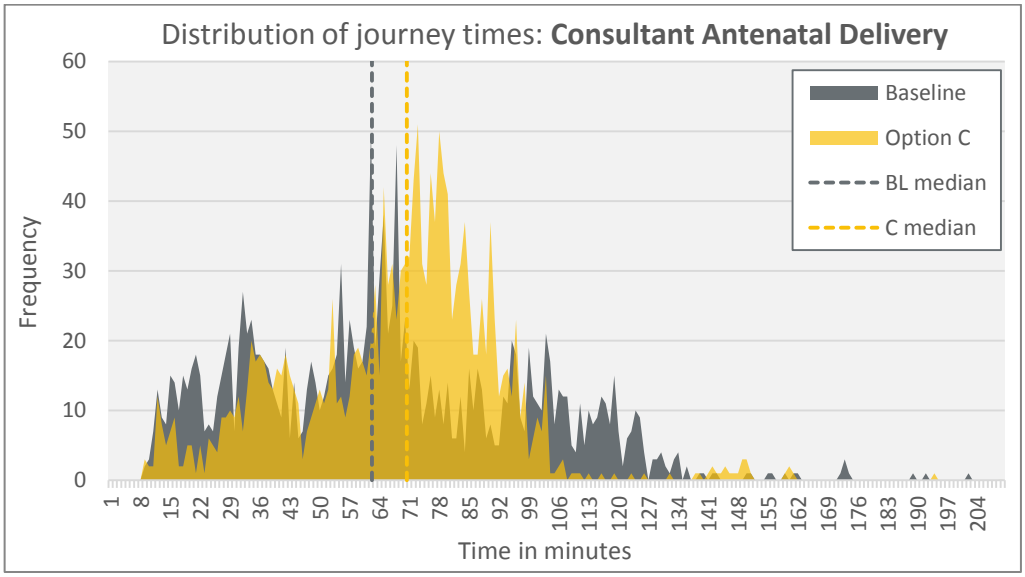
Under this option for this service, 1,085 journeys would take longer and 694 would be quicker. The change in median travel across the whole future fit footprint for women who use this service would be an increase of 6.2 minutes (car) or 8.2 minutes (public transport) and an extra distance on average of 3.9 miles per patient.

Figure 3.10 Journey times for baseline and Option C1 – car/van travel



Source: SaTH 2015/16 data; Strategy Unit analysis.

Figure 3.11 Journey times for baseline and Option C1 – travel by Public Transport



Source: SaTH 2015/16 data; Strategy Unit analysis.

3.6.5 Direction and scale of impact – by area

Generally speaking, this change in service benefits women living in Oswestry, Powys, Shrewsbury & Atcham and South Shropshire in terms of access by car/van and additionally North Shropshire by public transport. Women living in Bridgnorth, Hadley Castle, Lakeside South and the Wrekin would generally have to travel further and longer to be admitted.

Table 3.6 Journey times for Option C1 – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
New time (car) mins	34.3	33.0	24.5	11.2	38.6	28.0	27.6	23.7	39.6
Change from base	8.3	5.0	-20.0	-12.0	-9.2	17.2	13.1	14.6	-19.6
New dist (car) mls	24.3	21.6	17.0	4.3	25.1	21.0	20.8	17.6	26.1
Change from base	9.0	3.6	-14.8	-9.8	-5.4	16.4	13.7	13.9	-14.5
New time (PT) mins	78.6	61.9	62.8	33.1	58.2	78.2	75.8	72.9	68.1
Change from base	4.9	-27.3	-40.1	-29.7	-27.3	36.9	23.4	43.4	-34.0

Source: SaTH 2015/16 data; Strategy Unit analysis.

3.6.6 Potential equality effects

OPTION B.

There is no change of service proposed under Option B.

OPTION C1.

Age - Whilst women of all ages up to 50 would have both shorter and longer journeys the greatest negative impact would be felt by those under 25 with more than twice the numbers having longer journeys than shorter (270 from 404). The impact lessens with increased maternal age although half of mothers aged 40 and over would still require a longer journey to hospital.

Ethnic origin – The majority of women using this service are of White-British origin (78%) and around 60% more of these would need to travel further than nearer. This change would disproportionately affect all Asian (39 out of 47), Black (20 out of 22) and mixed ethnic groups (22 out of 29).

Deprivation – The vast majority of journeys in this cohort from the most deprived 10% of areas (using IMD deciles) of Future Fit (154 from 171) would be further and longer under this option. The effect reverses gradually along the deprivation scale and in the most affluent 20 % of areas, a minority of journeys (81 from 191) would be further and longer by any mode of transport.

3.7 Access to consultant-led antenatal ward (not ending in birth episode)

3.7.1 Nature of potential impact

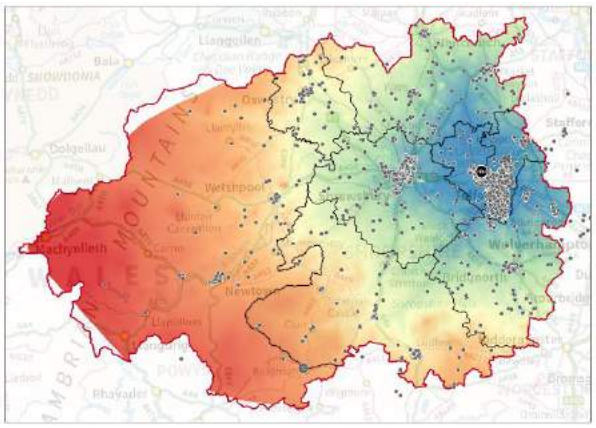
The impact on access to services would be for pregnant mothers admitted antenatally having to travel to RSH site rather than PRH as currently. As mothers across all of the Future Fit footprint use PRH for consultant-led maternity services there are likely to be some with better access and some with worse access as a result of this change. As they are discharged before giving birth, the majority if not all of these women would have to make a repeat journey (longer or shorter) when further progressed in labour.

3.7.2 Baseline in a "do minimum" scenario

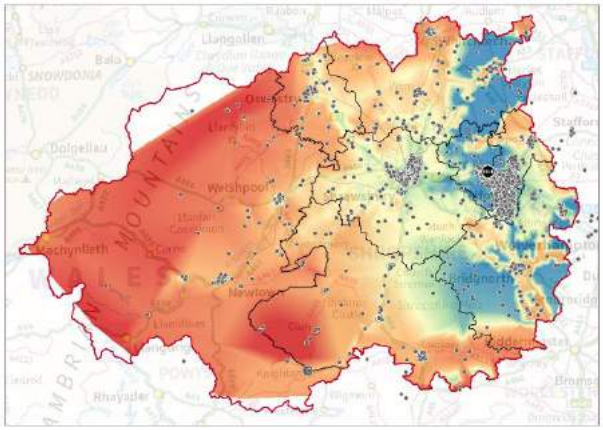
Baseline data indicates there were 2,448 women who attended for a spell of care at the relevant PRH inpatient ward. However, 666 were episodes that ended with the mother discharged before the birth of a baby/babies and for whom a different journey would be required in this option. No women are currently admitted to RSH for this type of care.

Figure 3.12 Baseline patient locations and journey times

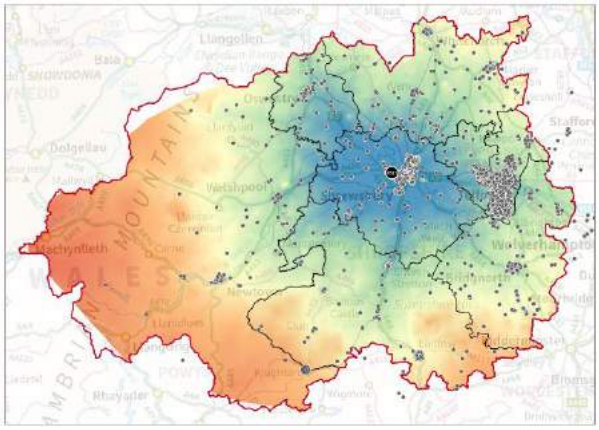
Patient locations and journey times to PRH by car



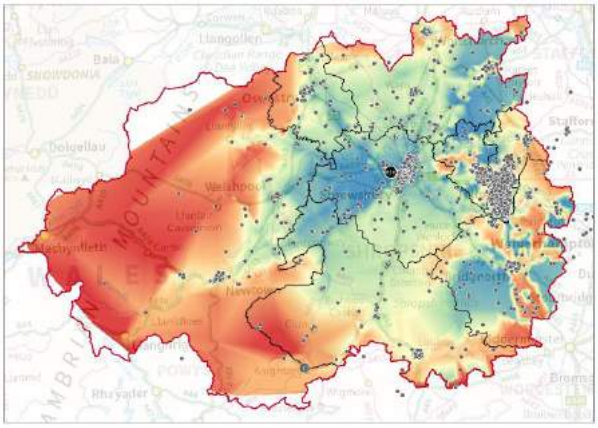
Patient locations and journey times to PRH by PT



Patient locations and journey times to RSH by car



Patient locations and journey times to RSH by PT



Source: Strategy Unit analysis; Contains Ordnance Survey data © Crown copyright and database right 2014 and National Statistics data © Crown copyright and database right 2011, 2013, 2016.

The average current journey time for the whole set of patients is 22.8 minutes with an average distance travelled of 13.7 miles by car/van and with an average time of 61.7 minutes by Public Transport.

Table 3.7 Baseline journey times – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
Journeys	46	45	20	122	33	150	110	103	37
Avg. time car (mins)	27.5	28.0	46.2	22.3	48.4	10.6	14.3	9.7	57.5
Avg. dist car (mls)	16.4	17.6	32.8	13.5	30.3	4.7	6.9	4.0	39.0
Avg. time PT (mins)	69.3	94.0	104.3	57.6	59.4	40.9	50.4	30.6	99.7

Source: SaTH 2015/16 data; Strategy Unit analysis.

3.7.3 Likelihood and timescale of impact

Assuming the switch of services to an alternative site occurs overnight with no phased or parallel running, the impacts will be felt immediately. As the activity detailed above are the totals for 1 year, it would take 12 months for the full impact to be felt across this whole cohort of patients. Some women on wards at the time of the switch may require an internal transfer to the new site.

3.7.4 Direction and scale of impact - overall

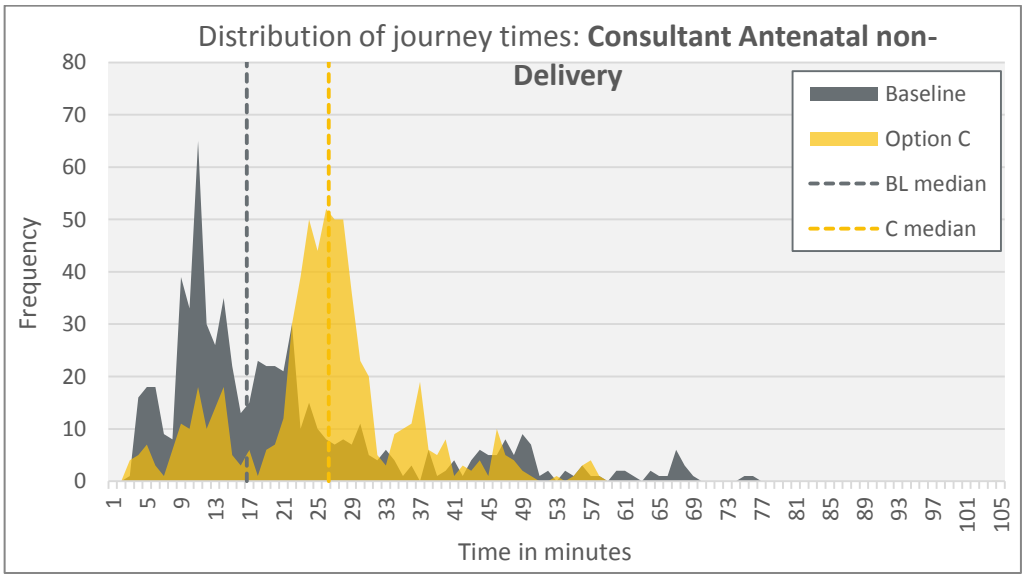
OPTION B.

There is no change of service proposed under Option B.

OPTION C1.

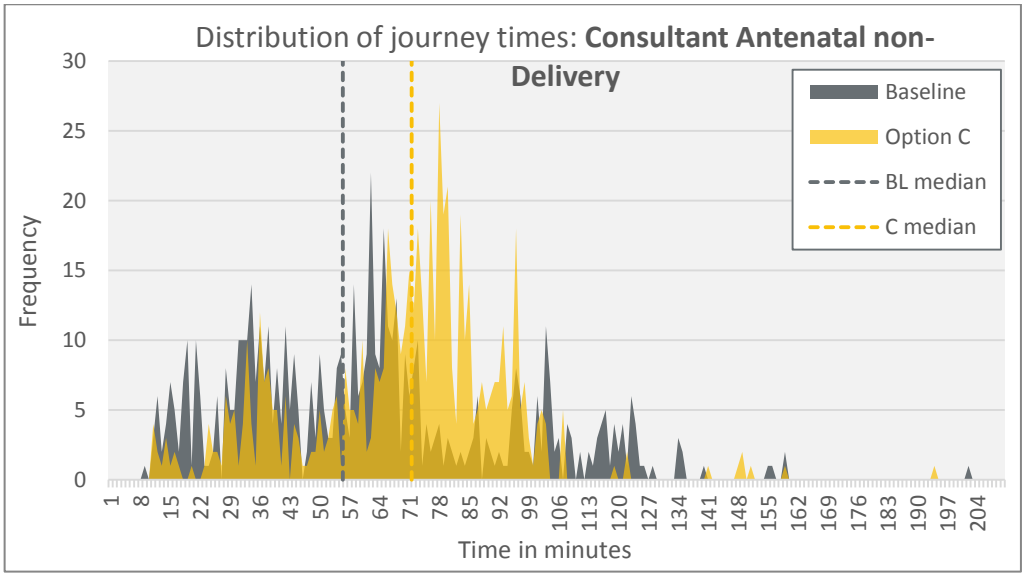
Under this option for this service, 436 journeys would take longer and 224 would be quicker. The change in median travel across the whole future fit footprint for women who use this service would be an increase of 9.6 minutes (car) or 16.1 minutes (public transport) and an extra distance on average of 5.6 miles per patient.

Figure 3.13 Journey times for baseline and Option C1 – car/van travel



Source: SaTH 2015/16 data; Strategy Unit analysis.

Figure 3.14 Journey times for baseline and Option C1 – travel by Public Transport



Source: SaTH 2015/16 data; Strategy Unit analysis.

3.7.5 Direction and scale of impact – by area

Generally speaking, this change in service benefits women living in Oswestry, Powys, Shrewsbury & Atcham and South Shropshire in terms of access by car/van and additionally North Shropshire by public transport. Women living in Bridgnorth, Hadley Castle, Lakeside South and the Wrekin would generally have to travel further and longer to be admitted.

Table 3.8 Journey times for Option C1 – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
New time (car) mins	35.8	32.0	26.3	11.2	39.3	27.8	27.2	23.7	38.5
Change from base	8.4	4.1	-20.0	-11.2	-9.1	17.2	12.9	14.0	-19.0
New dist (car) mls	25.3	20.7	18.2	4.0	24.8	20.8	20.4	18.0	25.1
Change from base	8.8	3.1	-14.7	-9.4	-5.5	16.1	13.5	14.0	-13.9
New time (PT) mins	72.6	66.2	69.8	30.6	49.5	74.5	77.2	71.4	64.1
Change from base	3.3	-27.8	-34.4	-27.0	-9.9	33.6	26.8	40.8	-35.6

Source: SaTH 2015/16 data; Strategy Unit analysis.

3.7.6 Potential equality effects

OPTION B.

There is no change of service proposed under Option B.

OPTION C1.

Age - Whilst women of all ages up to 50 would have both shorter and longer journeys the greatest negative impact would be felt by those under 20 with the majority having longer journeys than shorter (42 from 51). Roughly twice the number of mothers in all other age groups would require a longer journey to hospital than a shorter under this option.

Ethnic origin – The majority of women using this service are of White-British origin (81%) and around 63% more of these would need to travel further than nearer. This change would disproportionately affect all Asian (16 out of 19), Black (16 out of 16) and mixed ethnic groups (5 out of 5) although clearly in lower absolute numbers.

Deprivation – The vast majority of journeys in this cohort from the most deprived 10% of areas (using IMD deciles) of Future Fit (79 from 84) would be further and longer under this option. The effect generally reverses along the deprivation scale and in the most affluent 20 % of areas, a minority of journeys (20 from 43) would be further and longer by any mode of transport.

3.8 Access to consultant-led delivery ward (ending with a birth episode)

3.8.1 Nature of potential impact

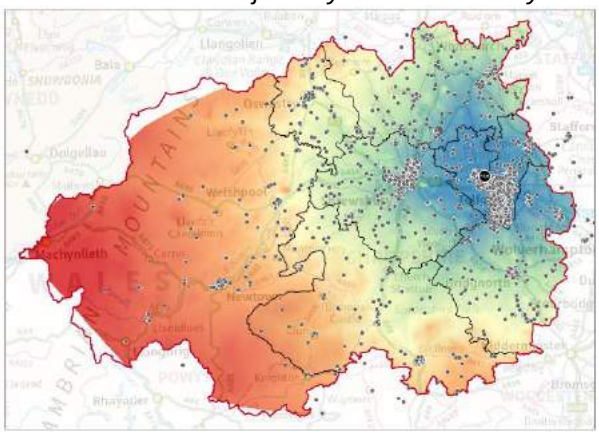
The impact on access to services would be for pregnant mothers admitted to the delivery ward having to travel to RSH site rather than PRH as currently. As mothers across all of the Future Fit footprint use PRH for consultant-led maternity services there are likely to be some with better access and some with worse access as a result of this change. The change in journey time would generally be short (under 20 minutes), however there is a small chance that some women may progress in labour during that time.

3.8.2 Baseline in a “do minimum” scenario

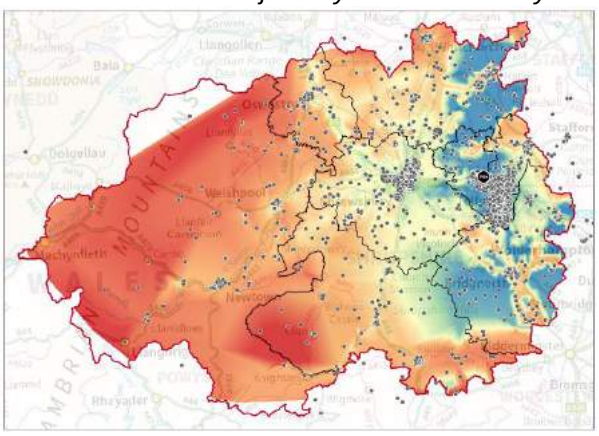
Baseline data indicates there were 2,439 women who attended for a spell of care at the relevant PRH inpatient delivery ward, although only 1,765 of those ended with a birth episode and for whom a different journey would be required in this option. No women are currently admitted to RSH for this level of care.

Figure 3.15 Baseline patient locations and journey times

Patient locations and journey times to PRH by car

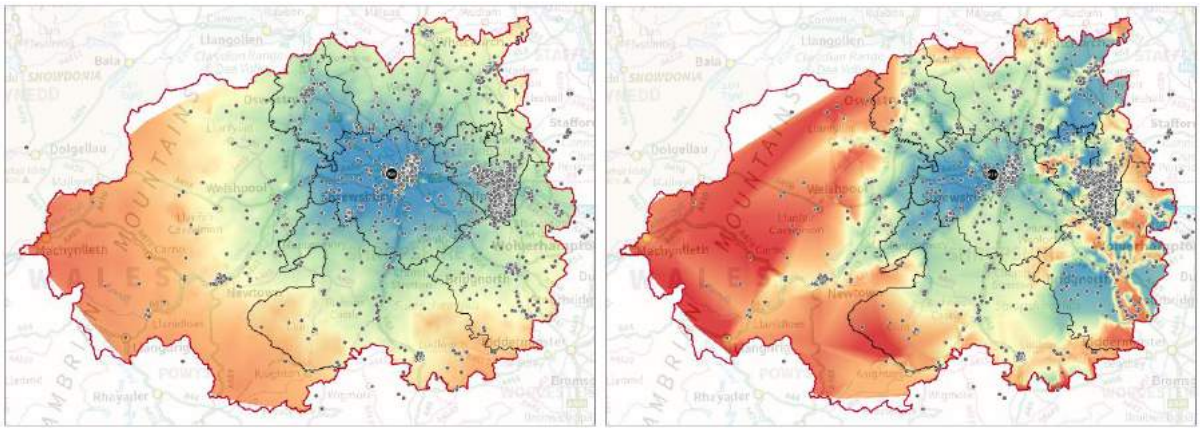


Patient locations and journey times to PRH by PT



Patient locations and journey times to RSH by car

Patient locations and journey times to RSH by PT



Source: Strategy Unit analysis; Contains Ordnance Survey data © Crown copyright and database right 2014 and National Statistics data © Crown copyright and database right 2011, 2013, 2016.

The average current journey time for the whole set of patients is 22.4 minutes with an average distance travelled of 13.3 miles by car/van and with an average time of 64.8 minutes by Public Transport. This varies by locality:

Table 3.9 Baseline journey times – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
Journeys	139	190	58	376	82	314	247	265	94
Avg. time car (mins)	26.3	27.6	43.6	23.1	47.4	10.5	14.6	9.1	61.7
Avg. dist car (mls)	15.6	17.6	30.5	14.0	30.0	4.5	7.1	3.7	42.5
Avg. time PT (mins)	77.2	87.8	102.5	62.2	87.1	40.9	53.7	28.6	103.0

Source: SaTH 2015/16 data; Strategy Unit analysis.

3.8.3 Likelihood and timescale of impact

Assuming the switch of services to an alternative site occurs overnight with no phased or parallel running, the impacts will be felt immediately. As the activity detailed above are the totals for 1 year, it would take 12 months for the full impact to be felt across this whole cohort of patients. Some women and their babies on wards at the time of the switch may require an internal transfer to the new site.

3.8.4 Direction and scale of impact - overall

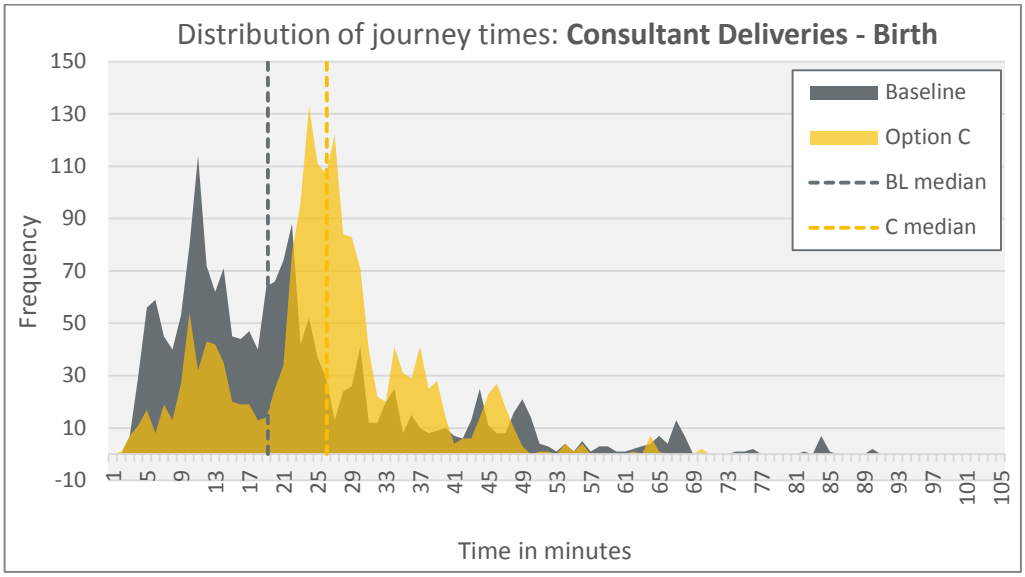
OPTION B.

There is no change of service proposed under Option B.

OPTION C1.

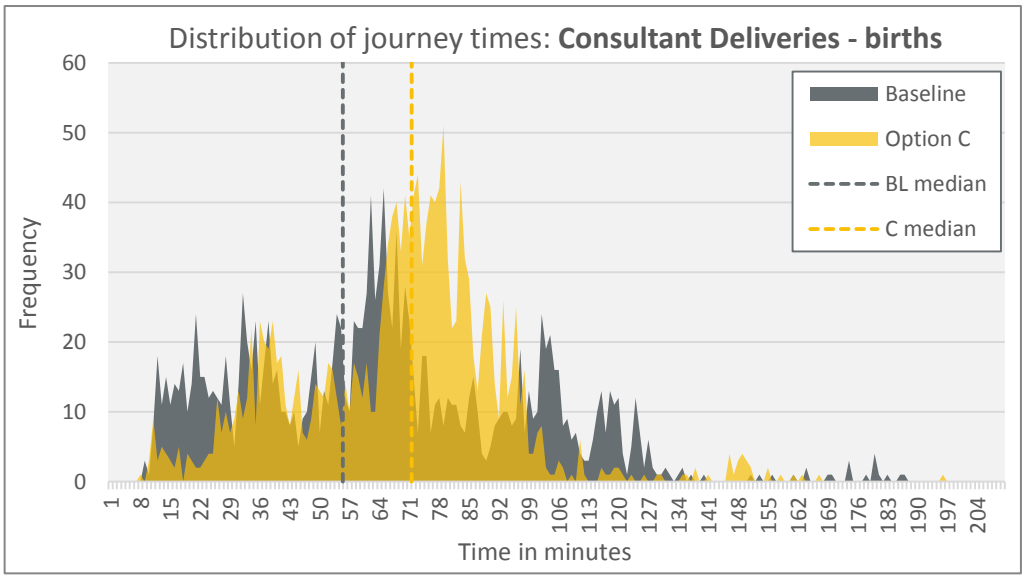
Under this option for this service, 1,111 journeys would take longer and 650 would be quicker. The change in median travel across the whole future fit footprint for women who use this service would be an increase of 6.9 minutes (car) or 8.5 minutes (public transport) and an extra distance on average of 4.6 miles per patient.

Figure 3.16 Journey times for baseline and Option C1 – car/van travel



Source: SaTH 2015/16 data; Strategy Unit analysis.

Figure 3.17 Journey times for baseline and Option C1 – travel by Public Transport



Source: SaTH 2015/16 data; Strategy Unit analysis.

3.8.5 Direction and scale of impact – by area

Generally speaking, this change in service benefits women living in Oswestry, Powys, Shrewsbury & Atcham and South Shropshire in terms of access by car/van and additionally North Shropshire by public transport. Women living in Bridgnorth, Hadley Castle, Lakeside South and the Wrekin would generally have to travel further and longer to be admitted.

Table 3.10 Journey times for Option C1 – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
New time (car) mins	34.9	33.5	23.7	11.8	39.4	27.9	27.7	23.6	41.9
Change	8.6	6.0	-19.8	-11.4	-8.0	17.4	13.1	14.4	-19.8

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
from base									
New dist (car) mls	24.7	21.8	16.2	4.7	25.4	20.9	20.8	17.5	27.8
Change from base	9.1	4.2	-14.3	-9.3	-4.6	16.4	13.7	13.8	-14.7
New time (PT) mins	84.7	61.4	62.0	33.6	60.4	77.9	77.3	69.9	69.0
Change from base	7.6	-26.5	-40.5	-28.6	-26.7	37.0	23.7	41.3	-34.0

Source: SaTH 2015/16 data; Strategy Unit analysis.

3.8.6 Potential equality effects

OPTION B.

There is no change of service proposed under Option B.

OPTION C1.

Age – The majority of most mothers up to the age of 50 would have both shorter and longer journeys. The greatest negative impact would be felt by those under 20 with more than twice the numbers having longer journeys than shorter (59 from 81). The impact lessens for mothers aged 30 and over although a majority would still have to travel further.

Ethnic origin – The majority of women using this service are of White-British origin (78%) and around 60% more of these would need to travel further than nearer. This change would disproportionately affect all Asian (38 out of 41), Black (25 out of 25) and mixed ethnic groups (13 out of 17).

Deprivation – The majority of journeys in this cohort from the most deprived 30% of areas (using IMD deciles) of Future Fit (460 from 575) would be further and longer under this option. The effect lessens along the deprivation scale and in the most affluent 20 % of areas, a minority of journeys (62 from 150) would be further and longer by any mode of transport.

3.9 Access to consultant-led delivery ward (not ending with a birth episode)

3.9.1 Nature of potential impact

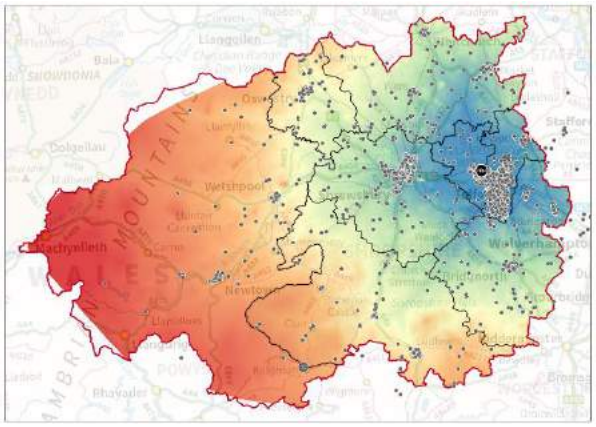
The impact on access to services would be for pregnant mothers admitted to the delivery ward having to travel to RSH site rather than PRH as currently. As mothers across all of the Future Fit footprint use PRH for consultant-led maternity services there are likely to be some with better access and some with worse access as a result of this change. The change in journey time would generally be short (under 20 minutes), however there is a small chance that some women may progress in labour during that time.

3.9.2 Baseline in a "do minimum" scenario

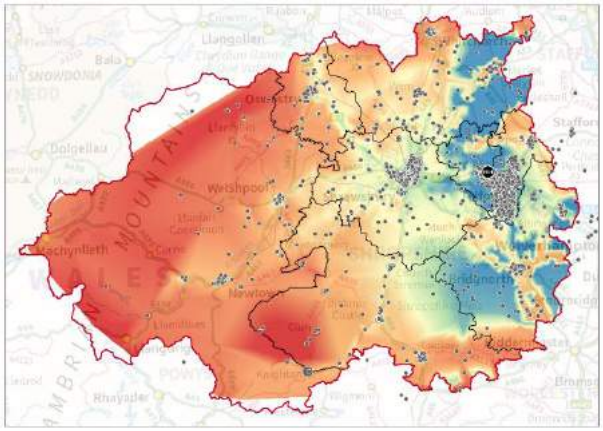
Baseline data indicates there were 2,439 women who attended for a spell of care at the relevant PRH inpatient delivery ward, although 795 of those ended without a birth episode and for whom a different journey would be required in this option. No women are currently admitted to RSH for this level of care and most if not all would have to make a repeat journey at a later stage of labour.

Figure 3.18 Baseline patient locations and journey times

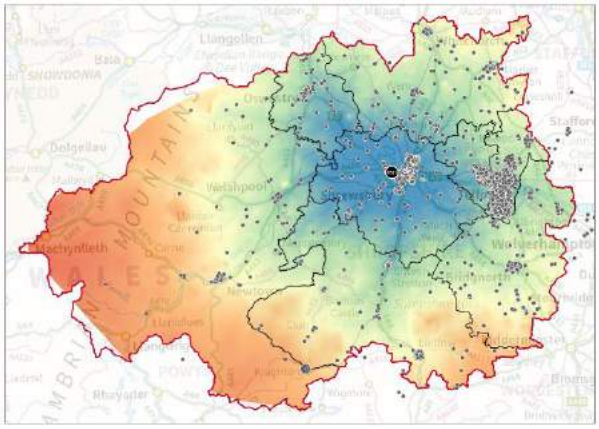
Patient locations and journey times to PRH by car



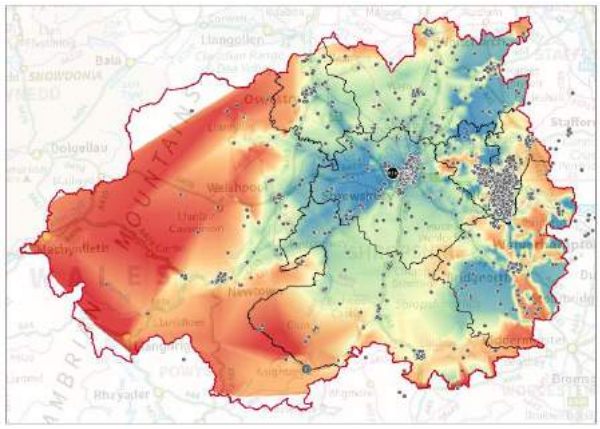
Patient locations and journey times to PRH by PT



Patient locations and journey times to RSH by car



Patient locations and journey times to RSH by PT



Source: Strategy Unit analysis; Contains Ordnance Survey data © Crown copyright and database right 2014 and National Statistics data © Crown copyright and database right 2011, 2013, 2016.

The average current journey time for the whole set of patients is 22.4 minutes with an average distance travelled of 13.3 miles by car/van and with an average time of 64.8 minutes by Public Transport. This varies by locality:

Table 3.11 Baseline journey times – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
Journeys	57	75	30	136	20	151	135	139	52
Avg. time car (mins)	26.2	28.3	45.7	23.1	47.4	11.0	14.8	9.1	57.9
Avg. dist car (mls)	15.7	18.4	32.7	14.1	30.3	4.9	7.4	3.6	39.9
Avg. time PT (mins)	83.0	86.8	99.5	62.4	78.3	42.9	53.2	29.4	106.2

Source: SaTH 2015/16 data; Strategy Unit analysis.

3.9.3 Likelihood and timescale of impact

Assuming the switch of services to an alternative site occurs overnight with no phased or parallel running, the impacts will be felt immediately. As the activity detailed above are the totals for 1 year, it would take 12 months for the full impact to be felt across this whole cohort of patients. Some women and their babies on wards at the time of the switch may require an internal transfer to the new site.

3.9.4 Direction and scale of impact - overall

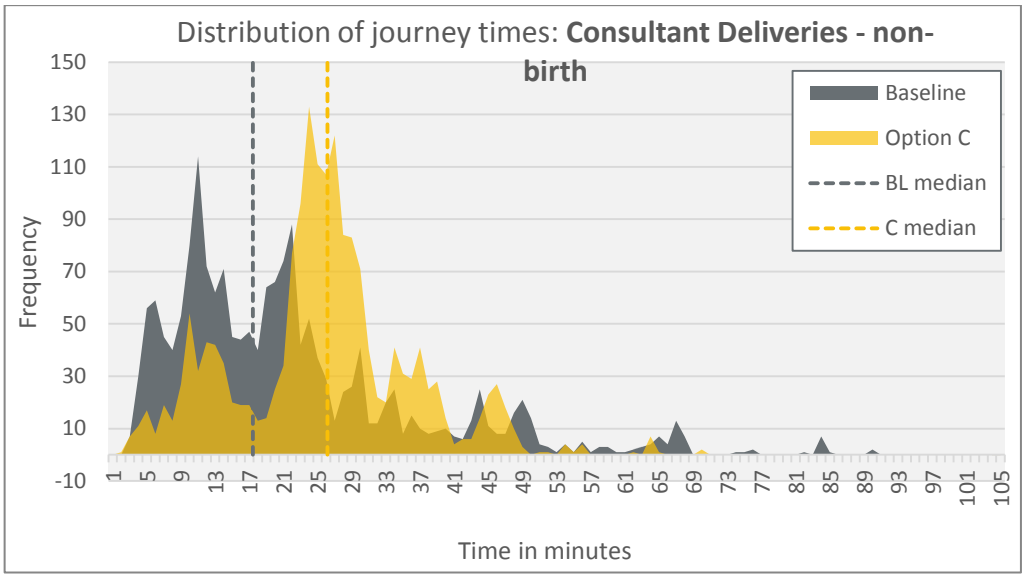
OPTION B.

There is no change of service proposed under Option B.

OPTION C1.

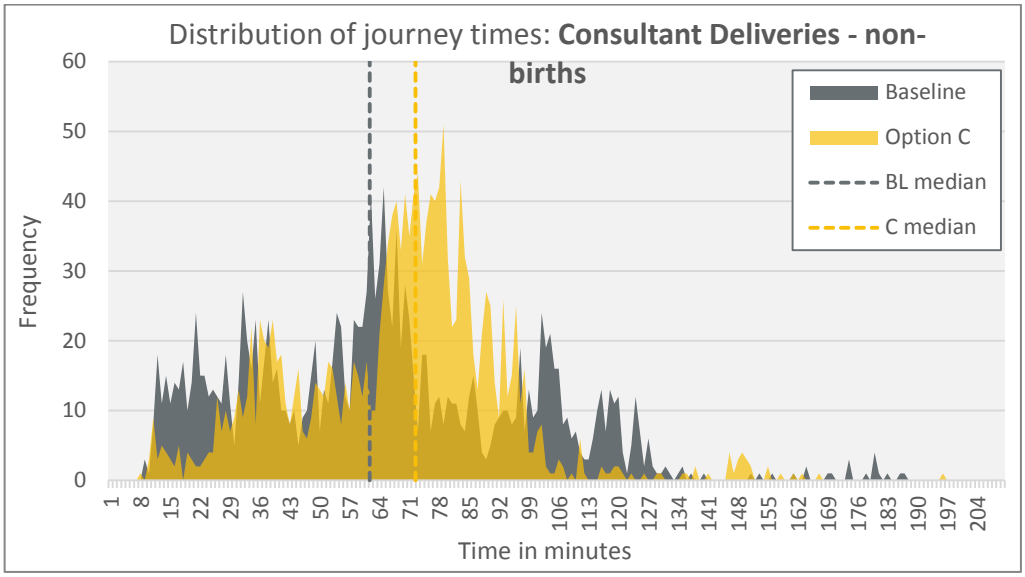
Under this option for this service, 538 journeys would take longer and 255 would be quicker. The change in median travel across the whole future fit footprint for women who use this service would be an increase of 8.8 minutes (car) or 10.7 minutes (public transport) and an extra distance on average of 5.4 miles per patient.

Figure 3.19 Journey times for baseline and Option C1 – car/van travel



Source: SaTH 2015/16 data; Strategy Unit analysis.

Figure 3.20 Journey times for baseline and Option C1 – travel by Public Transport



Source: SaTH 2015/16 data; Strategy Unit analysis.

3.9.5 Direction and scale of impact – by area

Generally speaking, this change in service benefits women living in Oswestry, Powys, Shrewsbury & Atcham and South Shropshire in terms of access by car/van and additionally North Shropshire by public transport. Women living in Bridgnorth, Hadley Castle, Lakeside South and the Wrekin would generally have to travel further and longer to be admitted.

Table 3.12 Journey times for Option C1 – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
New time (car) mins	34.9	33.5	23.7	11.8	39.4	27.9	27.7	23.6	41.9
Change from base	8.6	6.0	-19.8	-11.4	-8.0	17.4	13.1	14.4	-19.8
New dist (car) mls	24.7	21.8	16.2	4.7	25.4	20.9	20.8	17.5	27.8
Change from base	9.1	4.2	-14.3	-9.3	-4.6	16.4	13.7	13.8	-14.7
New time (PT) mins	84.7	61.4	62.0	33.6	60.4	77.9	77.3	69.9	69.0
Change from base	7.6	-26.5	-40.5	-28.6	-26.7	37.0	23.7	41.3	-34.0

Source: SaTH 2015/16 data; Strategy Unit analysis.

3.9.6 Potential equality effects

OPTION B.

There is no change of service proposed under Option B.

OPTION C1.

Age – The majority of most mothers up to the age of 50 would have longer journeys under this option. The greatest negative impact would be felt marginally by those aged 25-29 with more than twice the numbers having longer journeys than shorter (164 from 222). The impact would be least for mothers aged 45 and over (0 from 3 travelling further) although clearly in very small numbers.

Ethnic origin – The majority of women using this service are of White-British origin (81%) and around 2/3 of these would need to travel further than nearer. This change would disproportionately affect all Asian (20 out of 25), Black (17 out of 19) and mixed ethnic groups (7 out of 8).

Deprivation – The vast majority of journeys in this cohort from the most deprived 10% of areas (using IMD deciles) of Future Fit (90 from 95) would be further and longer under this option. The effect lessens for the most affluent 50% of all areas, although a much smaller majority would still have to travel further and longer by any mode of transport.

3.10 Access to consultant-led postnatal ward

3.10.1 Nature of potential impact

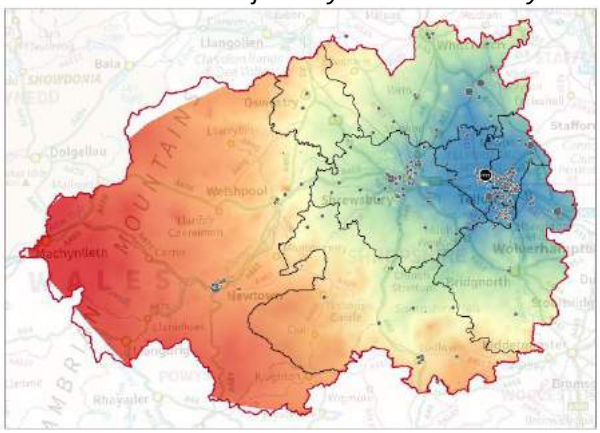
The impact on access to services would be for mothers admitted to the postnatal ward after birth of their child having to travel to RSH site rather than PRH as currently. As mothers across all of the Future Fit footprint use PRH for consultant-led maternity services there are likely to be some with better access and some with worse access as a result of this change. The change in journey time would generally be short (under 20 minutes).

3.10.2 Baseline in a “do minimum” scenario

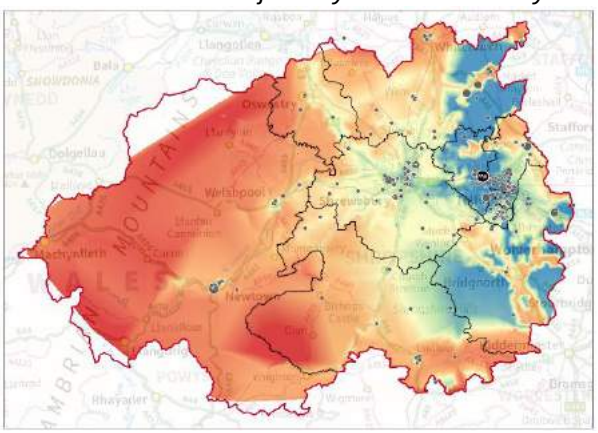
Baseline data indicates there were 487 women who were admitted for a spell of care at the relevant PRH ward, although only 289 of those were additional journeys (not of women/babies already in hospital or transferred from another) and for whom a different journey would be required in this option. No women are currently admitted to RSH for this type of care.

Figure 3.21 Baseline patient locations and journey times

Patient locations and journey times to PRH by car

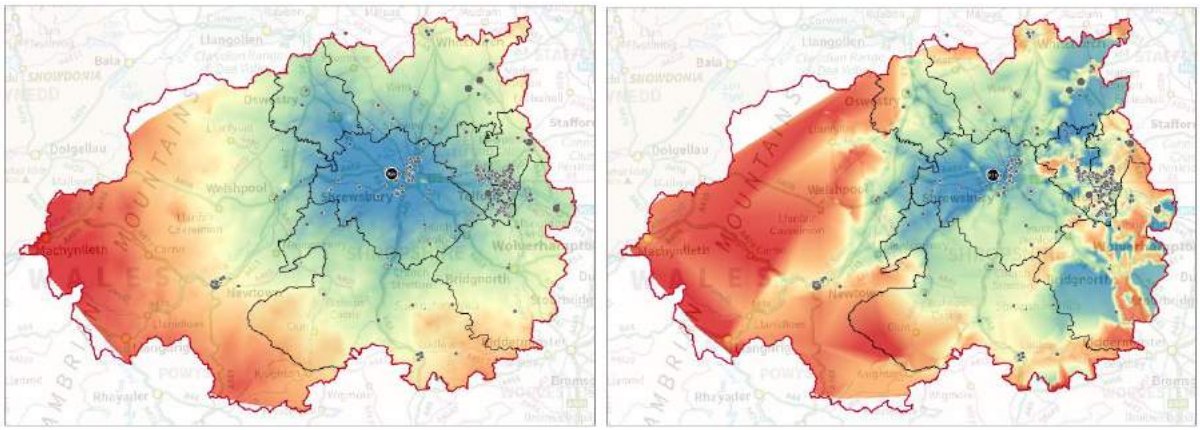


Patient locations and journey times to PRH by PT



Patient locations and journey times to RSH by car

Patient locations and journey times to RSH by PT



Source: Strategy Unit analysis; Contains Ordnance Survey data © Crown copyright and database right 2014 and National Statistics data © Crown copyright and database right 2011, 2013, 2016.

The average current journey time for the whole set of patients is 21 minutes with an average distance travelled of 12.3 miles by car/van and with an average time of 56.1 minutes by Public Transport. This varies by locality:

Table 3.13 Baseline journey times – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
Journeys	15	31	6	67	16	59	29	43	23
Avg. time car (mins)	19.4	27.1	42.5	22.4	45.1	11.2	14.7	8.6	60.1
Avg. dist car (mls)	11.0	17.6	30.7	13.7	28.5	5.2	7.3	3.4	41.6
Avg. time PT (mins)	60.9	86.2	103.2	58.8	85.4	39.9	55.3	26.1	103.1

Source: SaTH 2015/16 data; Strategy Unit analysis.

3.10.3 Likelihood and timescale of impact

Assuming the switch of services to an alternative site occurs overnight with no phased or parallel running, the impacts will be felt immediately. As the activity detailed above are the totals for 1 year, it would take 12 months for the full impact to be felt across this whole cohort of patients. Some women and their babies on wards at the time of the switch may require an internal transfer to the new site.

3.10.4 Direction and scale of impact – overall

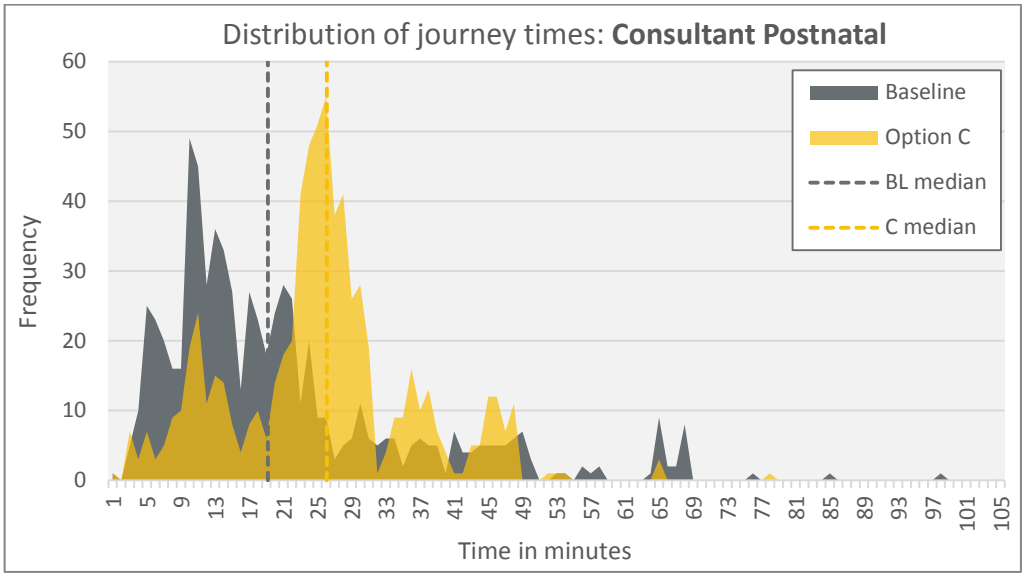
OPTION B.

There is no change of service proposed under Option B.

OPTION C1.

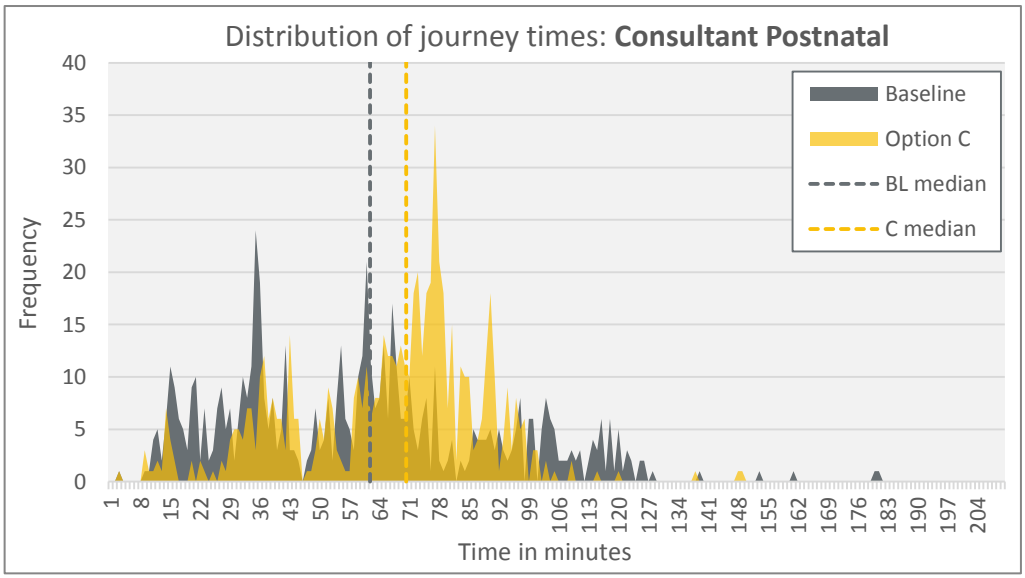
Under this option for this service, 175 journeys would take longer and 111 would be quicker. The change in median travel across the whole future fit footprint for women who use this service would be an increase of 6.9 minutes (car) or 8.3 minutes (public transport) and an extra distance on average of 5.7 miles per patient.

Figure 3.22 Journey times for baseline and Option C1 – car/van travel



Source: SaTH 2015/16 data; Strategy Unit analysis.

Figure 3.23 Journey times for baseline and Option C1 – travel by Public Transport



Source: SaTH 2015/16 data; Strategy Unit analysis.

3.10.5 Direction and scale of impact – by area

Generally speaking, this change in service benefits women living in Oswestry, Powys, Shrewsbury & Atcham and South Shropshire in terms of access by car/van and additionally North Shropshire by public transport. Women living in Bridgnorth, Hadley Castle, Lakeside South and the Wrekin would generally have to travel further and longer to be admitted.

Table 3.14 Journey times for Option C1 – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
New time (car) mins	30.6	33.9	22.5	10.9	37.6	27.5	27.4	23.3	40.1
Change	11.2	6.8	-20.0	-11.5	-7.6	16.3	12.7	14.7	-20.0

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
from base									
New dist (car) mls	23.3	22.5	15.8	4.8	24.2	20.8	20.5	17.0	26.7
Change from base	12.2	4.9	-14.9	-8.9	-4.3	15.7	13.2	13.6	-14.9
New time (PT) mins	75.3	59.8	59.0	31.2	56.8	74.9	74.9	68.2	72.2
Change from base									

Source: SaTH 2015/16 data; Strategy Unit analysis.

3.10.6 Potential equality effects

OPTION B.

There is no change of service proposed under Option B.

OPTION C1.

Age – The impact on longer journeys for women is roughly the same across all age groups – around 60% of all patients having to travel further.

Ethnic origin – The majority of women using this service are of White-British origin (73%) and around 60% of these would need to travel further than nearer. This change would disproportionately affect all Asian (8 out of 12), Black (2 out of 2) and other ethnic groups (3 out of 4) but clearly in low absolute numbers.

Deprivation – The majority of journeys in this cohort from the most deprived 10% of areas (using IMD deciles) of Future Fit (19 from 21) would be further and longer under this option as would journeys from the least deprived 10% (13 from 17). The effect is broadly the same across the rest of the deprivation scale but a small majority would still have to travel further and longer by any mode of transport.

3.11 Transfers from Midwife-led Units (MLU)

3.11.1 Nature of potential impact

The majority of mothers choosing to deliver their baby at a midwife-led unit will do so without complication. There are however circumstances where care may need to be escalated to a consultant unit for specialist input. Under Option C1, the consultant led unit at PRH would be relocated to RSH and this could impact on the journey time of transfers from MLU.

3.11.2 Baseline in a “do minimum” scenario

Baseline data indicates there were 334 transfers between MLU and the consultant led unit at PRH during 2015/16 and therefore may have had a different transfer route were consultant services arranged differently.

Table 3.15 Transfers between MLU and the consultant led unit in 2015/16

Unit	Transfers

Unit	Transfers
Wrekin	170
Shrewsbury	109
Bridgnorth	15
Oswestry	22
Ludlow	18
ALL	**334**

Source: SaTH 2015/16 data.

3.11.3 Likelihood and timescale of impact

Assuming the switch of services to an alternative site occurs overnight with no phased or parallel running, the impacts will be felt immediately. As the activity detailed above are the totals for 1 year, it would take 12 months for the full impact to be felt across this whole cohort of patients.

3.11.4 Direction and scale of impact - overall

Under Option C1, journey times of transfers from MLU to the consultant led unit (which would be located at RSH rather than PRH) would increase by an average of 5 minutes.

3.11.5 Direction and scale of impact – by area

The impact on journey times would vary quite significantly from different MLUs in the catchment area.

Table 3.16 Journey times of transfers between MLU and consultant led unit under Option C1

Unit	2015/16 transfers	Nature of change	Estimated change
Wrekin	170	Transfer to RSH	+ 20 mins
Shrewsbury	109	No transfer now req.	- 20 mins
Bridgnorth	15	Transfer to RSH	+ 8 mins
Oswestry	22	Transfer to RSH	- 21 mins
Ludlow	18	Transfer to RSH	- 4 mins
ALL	**334**		**+5 mins (net effect) on average**

Source: SaTH 2015/16 data.

3.11.6 Potential equality effects

This analysis was carried out on aggregate data provided by SaTH trust. No record-level patient data were available on MLU patients so the impact on protected groups cannot be determined.

3.12 Crosscutting Impacts and Equality Effects

In addition to the detailed clinical and travel time impacts considered in the previous sections, certain crosscutting health and access issues were also identified through

the engagement activities conducted as part of the Future Fit engagement work and Powys Equalities Impact Assessment, and the interviews conducted with stakeholders and representatives of equalities groups. These are summarised below:

3.12.1 Awareness and understanding of proposed changes to Women's and Children's services

Although levels of awareness of the Future Fit programme and the proposed changes Women's and Children's services were thought to be high amongst local residents in the catchment area, not all of the details of these changes are widely understood. Specifically, there it a misconception amongst some that all Women's and Children's services could be relocated, rather than just in-patient services.

The clinical benefits of collocating in-patient Women's and Children's services with Emergency Care also do not appear to be widely appreciated outside of the programme's immediate stakeholders. For example, it was not raised as an issue by residents any of the focus groups and interviews conducted.

These low levels of awareness are undoubtedly exerting some influence on how local residents currently view the proposed changes.

3.12.2 Perceptions of existing Women's and Children's services at PRH

These perceptions were universally positive, across local residents from different parts of the catchment area and amongst recent users of the service and those who just knew of it by reputation.

For example, focus group participants described the services variously as "state of the art", "amazing", and "excellent". 32% of respondents in the public consultation survey also said they had previously chosen to access the services at PRH because "the building offered a nice environment", while 31% said it was because "I feel comfortable there" and 30% because "I feel safe there". A representative of young people with a disability reported that young people valued the facilities at PRH and the dedicated play provision provided for children of different ages. Patients at PRH consulted by the Shropshire Young Health Champions also gave positive feedback on the provision of play rooms and opportunities for reading, drawing and playing games. Reported experiences of using services at RSH were not so overwhelmingly positive, with some residents commenting on the older age of most of the hospital buildings.

In addition, doubts were voiced in focus groups and interviews about the need for (and value for money) of relocating the services, particularly as they had only been constructed at PRH relatively recently.

Programme stakeholders confirmed that if the services are moved to RSH then they will be located within a new building and retain all of the equipment and facilities currently offered at PRH. The existing Women's and Children's building at PRH will also be retained and continue to accommodate out-patient services for women and children and other services. However, again, awareness of these points appeared to be low amongst local residents.

3.12.3 Factors that may exacerbate access impacts

Journey times to access the affected Women's and Children's services emerged as a shared issue for women and children across all parts of the catchment area and

amongst all protect characteristic equality groups (see, for example, the findings from the Powys Equalities Impact Assessment in Annex 5). Equally, findings from public consultation survey, focus groups and interviews provide a more nuanced picture of the specific combinations of characteristics and circumstances that may lead to particular differential effects:

- Women and children in households with no access to a car. Nationally, 47% of households in the lowest income quintile and 32% of households in the second-lowest income quintile do not have a car, compared to an average of 24%[104]. In terms of ethnicity, 44% of Black / African / Caribbean / Black British adults live in a household without a car, compared to 18-25% amongst all other ethnic groups[105]. By age, people aged 21-29 and 70+ are most likely to live in a household without any cars (26% and 31% respectively compared to 14-19% amongst other age ranges)[106].
- Women and children in single car households were also identified as being potentially disadvantaged because of the use of the car by a partner at certain times of the day.
- Single mothers, who may have access to a car, but be unable to drive themselves at crucial times such as when their water has broken.
- Women and children without an extensive local network of family and friends. One notable finding from the public consultation survey is that nearly a third of respondents said a friend or relative had driven them to access Women's and Children's services in the past. Women and children without such a network (including but not limited to recent BAME migrants to the area) may be disproportionately affected.
- Women on low incomes, who may be particularly disadvantaged in circumstances where they urgently need transit to give birth and feel they have to pay for a taxi to do so.
- Women and children with particular barriers to using public transport. Representatives of groups with a sensory or physical disability highlighted additional challenges they can face in making longer and/or more complex and unfamiliar journeys to access services by public transport.
- Family and friends may be less able to visit children or women who have an extended stay in in-patient services, which could have a subsequent impact on their well-being and mental health.

[104] DfT (2015) National Travel Survey Table NTS0703 Household car availability by household income quintile

[105] DfT (2015) National Travel Survey Table NTS0707 Adult personal car access and trip rates by ethnic group

[106] DfT (2015) National Travel Survey Table NTS0208 Adult personal car access by age and gender

4 Health and Access Impacts and Equality Effects: Children's services

Clinical effectiveness

- The main change options (B and C1) are expected to sustainably improve the effectiveness of clinical care provided to the affected population. However, some caveats exist for Children's services, for example the risks associated with emergency transfer of an acutely unwell child from the Urgent Care Centre at one site, to the children's assessment unit at the other site. Clinical effectiveness benefits are also dependent upon the seamless rotation of staff of all grades, between the two sites of PRH and RSH, in either option.

Patient safety

- The main change options (B and C1) are expected to sustainably improve the safety of clinical care provided to the affected population. However, some caveats exist for Children's services, for example it is still largely unknown whether some parents living further from a hospital site, extend self-management of an acutely unwell child, before opting to consult emergency services.

Patient experience

- The main change options (B and C1) are expected to sustainably improve patient experience of clinical services for the affected population. However, some caveats exist for Children's services, for example the proposed Urgent Care Centre service will need effective publicity to raise awareness and confidence amongst the patient population about the services on offer,

Access to in-patient Children's Assessment Unit

- 2,419 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 4.5 minutes (car) or 2.8 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from Bridgnorth, Hadley Castle, Lakeside South and the Wrekin.
- Pre-school children and older children (15 and over), BAME children and those living in more deprived areas are more likely to have longer journey times under Option C1.

Access to the children's in-patient ward

- 5,693 journeys to these services would potentially be affected each year under Option C1. Average journey times would increase by 9.2 minutes (car) or 13.7 minutes (public transport). By area, journey times would be shorter from Oswestry, Powys, Shrewsbury & Atcham and South Shropshire but longer from Bridgnorth, Hadley Castle, Lakeside South and the Wrekin.
- BAME children and those living in more deprived areas are more likely to have longer journey times under Option C1.
- Nearest-site analysis of the IIA data suggests 217 would self-convey to RSH leaving 226 children subsequently admitted who might have attended the UCC at PRH and therefore require an internal site transfer.

Access to neonatal ward

- For the 328 babies admitted to the neonatal ward after birth there would be no impact on

access – they would already be on the same site under Option C1, but there are likely to be access impacts for carers.

- Journey times for admissions to the neonatal ward from elsewhere would potentially be affected, either positively or negatively, although the number of these admissions (31) is very small.

This chapter presents evidence on the projected health and access impacts and equality effects of the proposed changes to Children's services.

4.1 Clinical effectiveness

4.1.1 Nature of potential impact

Experience of care, clinical effectiveness and patient safety make the three key components of quality in the NHS. Good care is linked to positive outcomes for the patient and is also associated with high levels of staff and patient satisfaction. The effectiveness of clinical care services is expected to improve following the reconfiguration of services, as Emergency Medicine and General Surgical services become collocated with paediatric inpatient services.

4.1.2 Baseline in a "do minimum" scenario

The effectiveness of current services is supported by the collocation of inpatient services for women and children that was achieved in 2014 following consolidation onto the PRH site (albeit with increased travel times for patients and staff from the western side of the area). However, this previous change left one Emergency Department without on-site support from children's services and resulted in the separation of those services from General Surgical services. This reduces patient access to specialist senior clinical decision makers on both sites, potentially resulting in sub-optimal care.

4.1.3 Likelihood and timescale of impact

On completion of reconfiguration it is likely that the expected clinical effectiveness benefits of the proposals would begin to be realised immediately and that they would be enduring.

4.1.4 Direction and scale of impact - overall

The main change options B and C1 are expected to sustainably improve the effectiveness of clinical care provided to the affected population, through the consolidation of Women's and Children's services with a more effective emergency service that offers enhanced consultant cover.

Specific benefits expected include the following:

- Confirmation of a decision on either options B or C1 will also provide greater certainty for the workforce, which may instil confidence and commitment to the service. This may have a positive impact on workforce recruitment and retention but may involve the loss of a small number of staff (e.g. those recruited from Staffordshire area), for whom travel times may become unpalatable. (*NB*

Numerous potential impacts were identified in 2014 when the services were consolidated on the PRH site, many in relation to facilities and these were detailed in a report at that time. Experience since 2014 has demonstrated that the impact on employment was minimal, a few members of staff (of the 750 or so affected) had issues that were all addressed with regards to the 2014 move i.e. role-swaps happened so they remained at RSH. It is reported by the clinical teams that it was the consolidation of paediatrics (two small units into one larger unit) and the huge improvement in the clinical environment that enabled them to recruit to long standing vacant consultant posts. These were the two key drivers for changes to W&C services.)

- In option C1, the colocation of emergency services with inpatient children's services will provide access to expertise which is not currently consistently available at RSH.
- In both options the collocation of emergency services with inpatient children's services allows for quicker reviews and seamless surgical pathways that avoid transfers and thereby contribute to improved outcomes for patients.
- Patients will be able to attend the Urgent Care Centre for initial assessment at both sites. However, emergency admission would require patients to be seen at the Children's Assessment Unit, which will only be available at the same site as emergency care (PRH in option B and RSH in option C1). GPs and ambulances would also have direct access to the Children's Assessment Unit. However, this change in configuration is associated with risks surrounding the transfer of a child from the Urgent Care Centre at the site where emergency care is not located (RSH in option B and PRH in optionC1), to the Emergency Department at the other site.
- All children's day cases would be handled at the site where emergency care is located (PRH in option B and RSH in option C1).
- The rotation of clinical staff of all grades, between the two sites of PRH and RSH in either option, needs to be straightforward to assist with skills development, implementation of protocols, effective service delivery and improved patient outcomes.

4.1.5 Direction and scale of impact - by area

The impact of clinical effectiveness is likely to be influenced by the services immediately accessible to patients, within a locality. This is especially important in the case of remote localities. Efforts towards improving services for remote populations are recommended by clinicians and these are detailed in the final chapter of this report.

Time is a risk factor that needs to be acknowledged with respect to the following circumstances:

- The time between ambulance response and treatment needs to be considered, as often treatment begins in the ambulance for Women's and Children's services. This mitigates some of the potential risks associated with distance for patients of children's services.
- Timing is also an issue in the case of availability of medicines for acute cases in children's services. Paramedics and GPs sometimes don't have access to medication needed in acute situations. In the workshop it was suggested that reducing travel times that are >30mins in the case of acutely unwell children is

imperative and may be lifesaving in critical cases. This applies to patients travelling from home, as well as ambulance services.

- The risk of time taken to transfer a child attending the Urgent Care Centre at the site where emergency care is not located (RSH in option B and PRH in option C1), to admission at the site where emergency care is located (PRH in option B and RSH in option C1), also needs to be acknowledged.

4.1.6 Potential equality effects

Although children are less prevalent users of Women's and Children's services compared to women, the programme's expectation is that clinical effectiveness benefits would apply specifically to patients of Paediatrics and Neonatology. It could also be said that the greater benefits will accrue to those children who are higher users of hospital services than the general population. This includes: young children, BAME groups and children living in deprivation. Clinicians at the workshop agreed that these services would benefit from enhanced clinical effectiveness.

4.2 Patient safety

4.2.1 Nature of potential impact

Experience of care, clinical effectiveness and patient safety make the three key components of quality in the NHS. Good care is linked to positive outcomes for the patient and is also associated with high levels of staff and patient satisfaction. The consolidation of services is expected to address a number of potential safety issues with the current configuration, and these are set out below.

4.2.2 Baseline in a "do minimum" scenario

Specific safety issues in the do minimum scenario include the following:

- Paediatric surgery services are at PRH whilst the main surgical base is RSH creating risks particularly out of hours.
- There is a lack of General Surgery support for children's services at PRH.
- There is a lack of sufficient skills and experience in Emergency Medicine and anaesthetics at RSH for acutely unwell children.
- Inpatient theatre provision is misaligned for Women's and Children's services.
- Inter hospital transfers from speciality to speciality are required, resulting in poor flow and prolonged hospital stays for patients of Women's and Children's services.

4.2.3 Likelihood and timescale of impact

On completion of reconfiguration it is likely that the expected patient safety benefits of the proposals would begin to be realised immediately and that they would be enduring.

4.2.4 Direction and scale of impact - overall

The main change options B and C1 are expected to sustainably improve the safety of clinical care provided to the affected population, through the consolidation of

Women's and Children's services with a more effective emergency service that offers enhanced consultant cover.

Specific benefits expected include the following:

- Collocation of single site delivery for emergency care with inpatient children's services ensures timely access to senior decision makers.
- In both options the collocation of emergency services with inpatient children's services allows for quicker reviews and seamless surgical pathways that avoid transfers and thereby contribute to improved outcomes for patients.
- Unified pathways for care reduce variation and the risks inherent in this.
- All emergency care would benefit from access to all specialities in a crisis.
- Seven day working would be deliverable on both sites with increased presence of senior decision makers reducing any risk of sub-optimal care.

4.2.5 Direction and scale of impact - by area

The impact of patient safety is likely to be influenced by the services immediately accessible to patients, within a locality. Efforts towards improving services for remote populations are recommended by clinicians and these are detailed in the final chapter of this report.

There is also currently a lack of evidence to indicate whether some parents living further from a hospital site, extend self-management of an acutely unwell child, before opting to consult emergency services. The Child Death Overview Panel for Shropshire, Telford and Wrekin have confirmed that their work to date has found no themed risk factors associated with travel and access in their reviews, Further work is necessary to understand if this can be confirmed and the impact for Powys children.

4.2.6 Potential equality effects

Although children are less prevalent users of Women's and Children's services compared to women, the programme's expectation is that patient safety benefits would apply specifically to patients of Paediatrics and Neonatology. It could also be said that the greater benefits will accrue to those children who are higher users of hospital services than the general population. This includes: young children, BAME groups and children living in deprivation. Clinicians at the workshop agreed that these services would benefit from enhanced patient safety.

4.3 Patient experience

4.3.1 Nature of potential impact

Experience of care, clinical effectiveness and patient safety together make the three key components of quality in the NHS. Good care is linked to positive outcomes for the patient and is also associated with high levels of staff satisfaction. The proposed Urgent Care Centre service will provide initial assessment services to patients at both sites, whilst emergency admission will be through the Children's Assessment Unit, located at the same site as emergency care. Patient experience of clinical care services is expected to improve following the reconfiguration of services, as specialist workforce is consolidated into stable and sustainable clinical teams. Any

impact (positive or negative) on their experience of accessing services (in terms of journey times) is reported later in this chapter.

4.3.2 Baseline in a "do minimum" scenario

Patient experience of current Women's and Children's services is adversely impacted as a result of the following factors:

- There is variable access to senior decision makers in emergency medicine particularly out of hours.
- The current two-site service creates confusion for patients and relatives as to where care is being delivered for children's services.
- There is a need for regular inter-site transfers in children's services, to bring together the patient with the appropriate specialty team for each stage of their care.

4.3.3 Likelihood and timescale of impact

On completion of reconfiguration it is likely that the expected patient experience benefits of the proposals would begin to be realised immediately and that they would be enduring.

4.3.4 Direction and scale of impact - overall

The main change options B and C1 are expected to sustainably improve patient experience of clinical services for the affected population. Experience benefits and disbenefits arising from changes to journey times are reported separately.

Specific benefits expected include the following:

- There would be fewer delays in accessing senior clinical decision-makers in an emergency.
- Adverse impacts arising from the current separation of the complex surgery centre and the Women's and Children's Centre may be significantly reduced.
- Patients of the Women's and Children's service will be seen in the most appropriate service and facility and by the most appropriate staff as patients are 'streamed' based on their clinical need.
- Seven day working will facilitate timely and appropriate discharge.
- The proposed Urgent Care Centre service will however, need effective publicity to raise awareness and confidence amongst the patient population about the services on offer. The positive impact from the Urgent Care Centre is also dependent upon the availability of staff, skills and expertise, to provide the service.

4.3.5 Direction and scale of impact - by area

The impact of patient experience is likely to be influenced by the services immediately accessible to patients, within a locality. This is especially important in the case of remote localities. Efforts towards improving services for remote populations are recommended by clinicians and these are detailed in the final chapter of this report.

4.3.6 Potential equality effects

Although children are less prevalent users of Women's and Children's services compared to women, the programme's expectation is that patient experience benefits would apply specifically to patients of Paediatrics and Neonatology. It could also be said that the greater benefits will accrue to those children who are higher users of hospital services than the general population. This includes: young children, BAME groups and children living in deprivation. Clinicians at the workshop agreed that these services would benefit from enhanced patient experience.

4.4 Access to in-patient Children's Assessment Unit (CAU)

4.4.1 Nature of potential impact

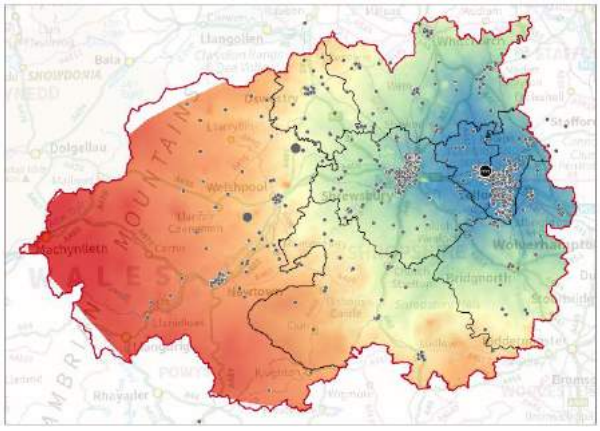
The impact on access to services would be for children (and their parents/carers/guardians) who are admitted to the CAU ward for extended assessment. Both ED and UCC would still have paediatric assessment for walk-in and low acuity patients who do not require specialist care. As children across all of the Future Fit footprint use PRH for this service there are likely to be some with better access and some with worse access as a result of this change. The majority of these admissions are unplanned.

4.4.2 Baseline in a "do minimum" scenario

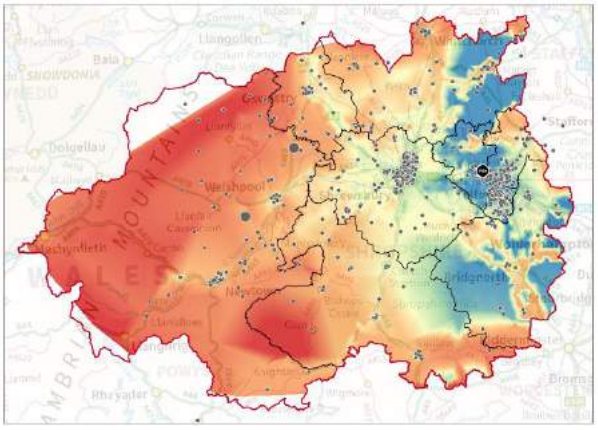
Baseline data indicates there were 1,060 separate spells of care at the relevant CAU ward from Future Fit residents. All of these were at PRH site, therefore would be affected in some way by a change.

Figure 4.1 Baseline patient locations and journey times

Patient locations and journey times to PRH by car

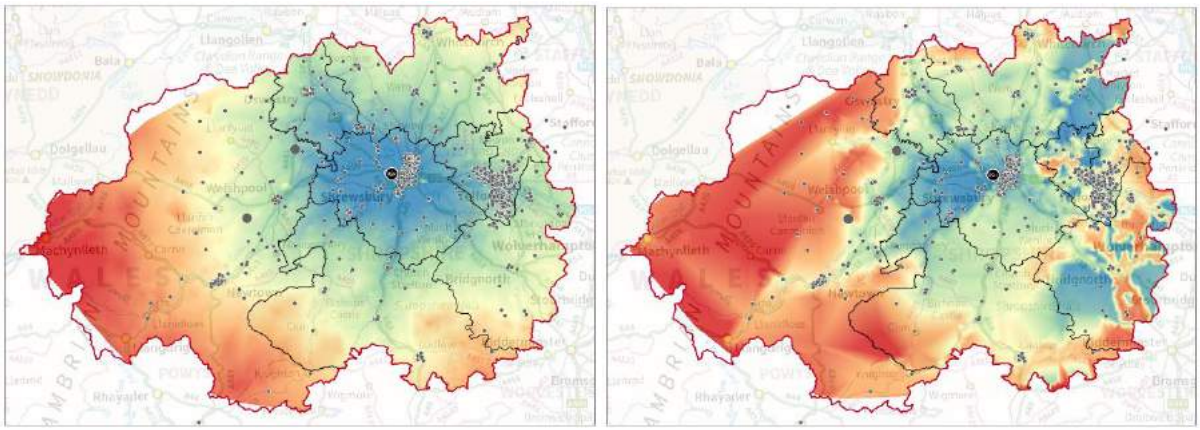


Patient locations and journey times to PRH by PT



Patient locations and journey times to RSH by car

Patient locations and journey times to RSH by PT



Source: Strategy Unit analysis; Contains Ordnance Survey data © Crown copyright and database right 2014 and National Statistics data © Crown copyright and database right 2011, 2013, 2016.

The average current journey time for the whole set of patients is 25.3 minutes with an average distance travelled of 15.5 miles by car/van and with an average time of 70.2 minutes if travelling by Public Transport. This varies by locality.

Table 4.1 Baseline journey times – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
Journeys	50	112	55	267	46	170	111	136	115
Avg. time car (mins)	22.5	29.8	43.2	23.5	47.5	10.7	14.7	9.3	59.3
Avg. dist car (mls)	12.7	19.2	30.6	14.3	29.9	4.6	7.3	3.9	40.6
Avg. time PT (mins)	64.5	94.8	103.2	65.4	77.4	42.5	53.0	31.7	94.0

Source: SaTH 2015/16 data; Strategy Unit analysis.

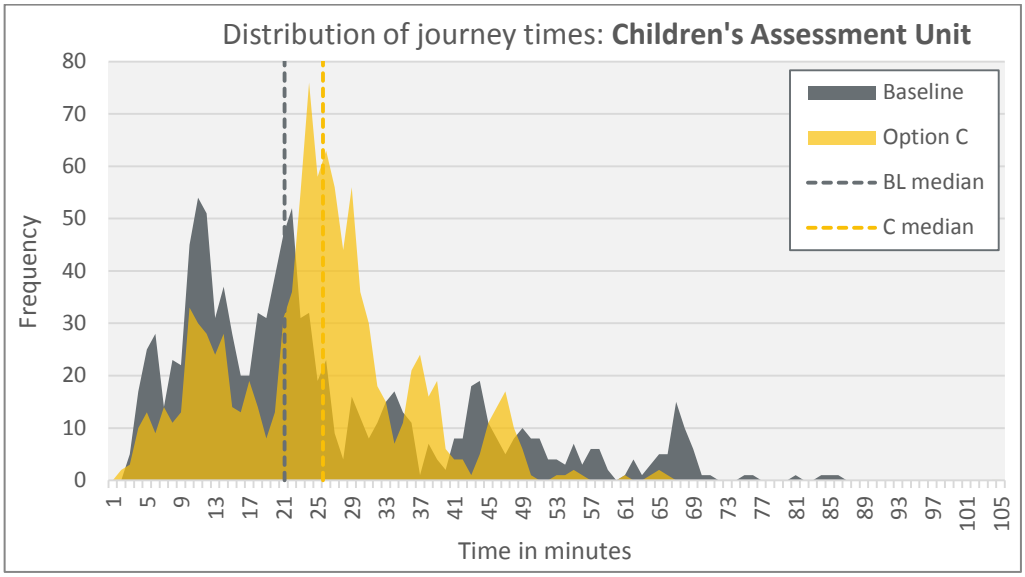
4.4.3 Likelihood and timescale of impact

Assuming the switch of services to an alternative site occurs overnight with no phased or parallel running, the impacts will be felt immediately. As the activity detailed above are the totals for 1 year, it would take 12 months for the full impact to be felt across this whole cohort of patients. Some children on wards at the time of the switch may require an internal transfer to the new site. As Urgent Care facilities will still be available at the 'warm' site, not all patients will be affected.

4.4.4 Direction and scale of impact - overall

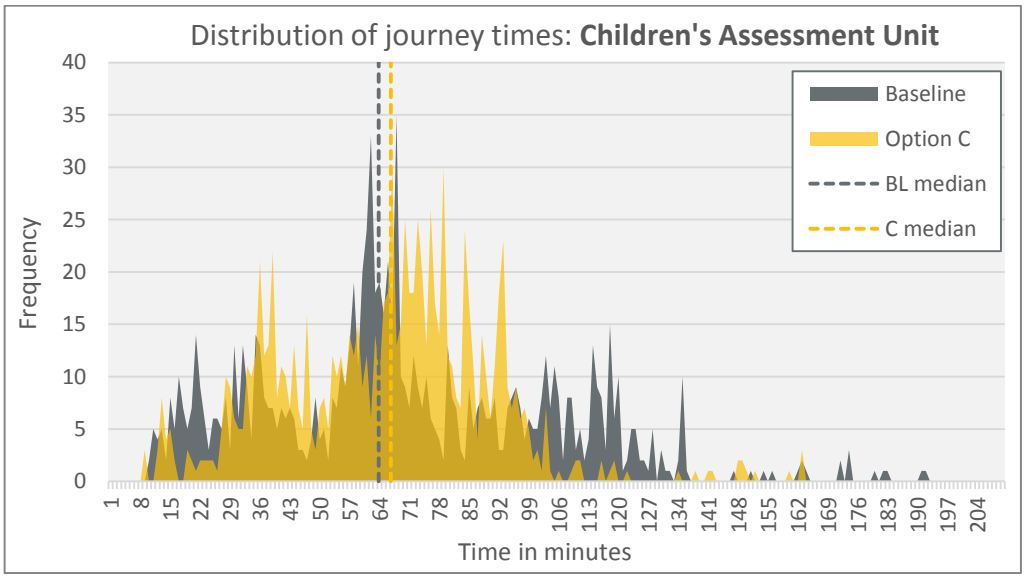
Under Option C1, 543 journeys would take longer and 517 would be quicker. The change in median travel across the whole future fit footprint for women who use this service would be an increase of 4.5 minutes (car) or 2.8 minutes (public transport) and an extra distance on average of 1.5 miles per patient.

Figure 4.2 Journey times for baseline and Option C1 – car/van travel



Source: SaTH 2015/16 data; Strategy Unit analysis.

Figure 4.3 Journey times for baseline and Option C1 – travel by Public Transport



Source: SaTH 2015/16 data; Strategy Unit analysis.

4.4.5 Direction and scale of impact – by area

Generally speaking, Option C1 benefits children and their families living in Oswestry, Powys, Shrewsbury & Atcham and South Shropshire in terms of access by car/van and additionally North Shropshire by public transport. Those living in Bridgnorth, Hadley Castle, Lakeside South and the Wrekin would generally have to travel further and longer to be assessed.

Table 4.2 Journey times for Option C1 – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
New time (car)	32.5	33.1	23.4	11.7	36.3	27.9	27.8	23.7	39.5

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
mins									
Change from base	10.0	3.3	-19.9	-11.8	-11.2	17.1	13.0	14.4	-19.8
New dist (car) mls	23.4	21.7	16.1	4.7	22.5	21.0	20.7	17.7	25.9
Change from base	10.6	2.5	-14.6	-9.6	-7.4	16.4	13.4	13.9	-14.7
New time (PT) mins	73.5	64.9	60.1	35.0	48.5	79.5	75.0	73.1	60.4
Change from base	9.0	-29.9	-43.1	-30.5	-28.9	37.0	22.0	41.4	-33.6

Source: SaTH 2015/16 data; Strategy Unit analysis.

Whilst the above assumes that all patients admitted to the CAU ward would have first travelled to the main emergency site (RSH in Option C1), in reality they may have first presented at A&E or the UCC.

It is not possible with the data extracts used for this IIA to identify all these patients and estimate their presentation choice or pre-admission pathway however we can derive the following using alternative SUS data for SaTH providers for the same period.

Of the activity admitted to the ward at PRH, 39 were transferred from RSH therefore those children would not have needed the transfer under Option C1.

643 children were admitted via A&E. Of those we estimate 31.1% (200) were ambulance conveyed therefore would have been taken directly to RSH site under Option C1. The remainder might have attended either the A&E at RSH or the UCC at PRH. Nearest-site analysis of the IIA data suggests 217 would self-convey to RSH leaving 226 children subsequently admitted who might have attended the UCC at PRH and therefore require an internal site transfer.

4.4.6 Potential equality effects

Age - Whilst children of all ages may be affected with shorter or longer journeys the greatest negative impact would be felt by pre-school children and older children (15 and over).

Ethnic origin – The majority of children using this service are of White-British origin (87%) and more of them would have shorter journeys in the new arrangement. This change would disproportionately affect Asian (28 out of 29), Black (5 out of 5) and Mixed (25 out of 28) ethnic groups journeys.

Deprivation – The vast majority of journeys in this cohort from the most deprived 10% of areas (using IMD deciles) of Future Fit (94 from 104) would be further and longer under this option. The effect is largely neutral for the rest of the deprivation scale but in the most affluent 20 % of areas a minority of journeys (31 from 79) would be further and longer by any mode of transport.

4.5 Access to the children's in-patient ward

4.5.1 Nature of potential impact

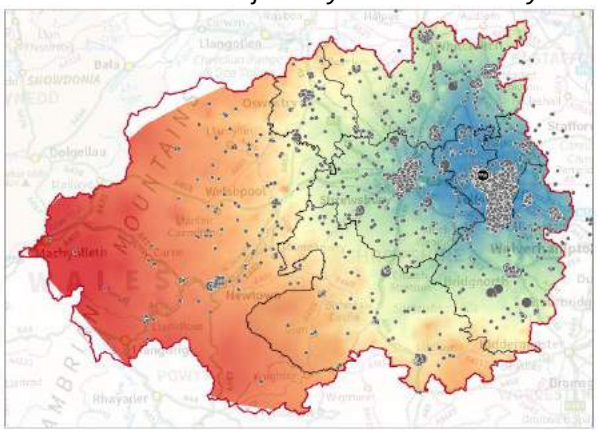
The impact on access to services would be for children (and their parents/carers/guardians) who are admitted to the children's ward for specialist consultant-led care. Both the ED and UCC would still have paediatric assessment for walk-in and low acuity patients who do not require specialist care. As children across all of the Future Fit footprint use PRH for this service there are likely to be some with better access and some with worse access as a result of this change. The majority of these admissions are unplanned therefore more likely to be time-critical cases.

4.5.2 Baseline in a "do minimum" scenario

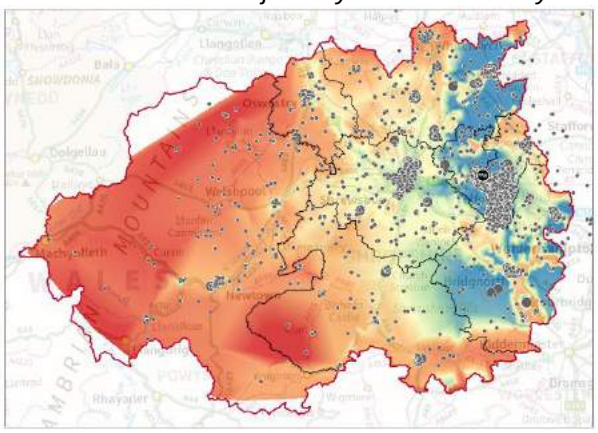
Baseline data indicates there were 5,693 separate spells of care at the relevant paediatric wards from Future Fit residents. All but 2 of these were at PRH site, therefore would be affected in some way by a change.

Figure 4.4 Baseline patient locations and journey times

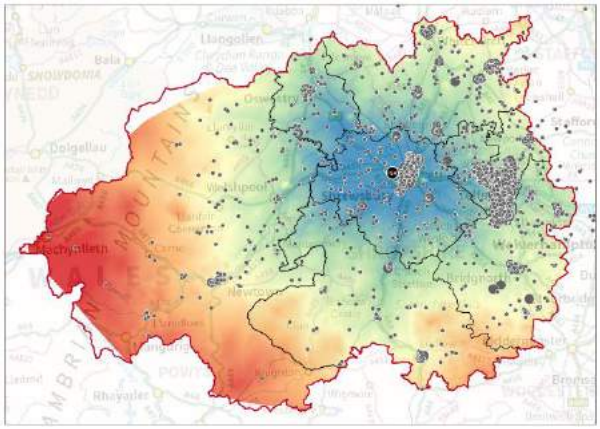
Patient locations and journey times to PRH by car



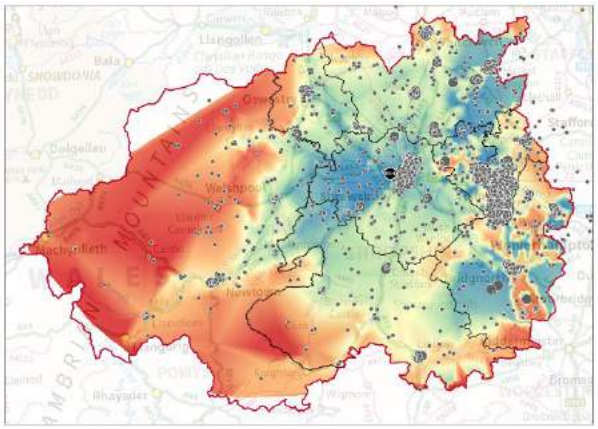
Patient locations and journey times to PRH by PT



Patient locations and journey times to RSH by car



Patient locations and journey times to RSH by PT



Source: Strategy Unit analysis; Contains Ordnance Survey data © Crown copyright and database right 2014 and National Statistics data © Crown copyright and database right 2011, 2013, 2016.

The average current journey time for the whole set of patients is 20.8 minutes with an average distance travelled of 12.1 miles by car/van and with an average time of 62.6 minutes if travelling by Public Transport. This varies by locality.

Table 4.3 Baseline journey times – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
Journeys	543	642	154	897	177	1194	741	1054	302
Avg. time car (mins)	24.1	28.2	43.4	23.3	46.5	10.7	14.9	8.8	60.5
Avg. dist car (mls)	14.1	18.2	30.7	14.1	29.5	4.6	7.3	3.5	41.6
Avg. time PT (mins)	70.9	90.7	101.4	62.1	79.1	41.0	52.6	28.6	99.3

Source: SaTH 2015/16 data; Strategy Unit analysis.

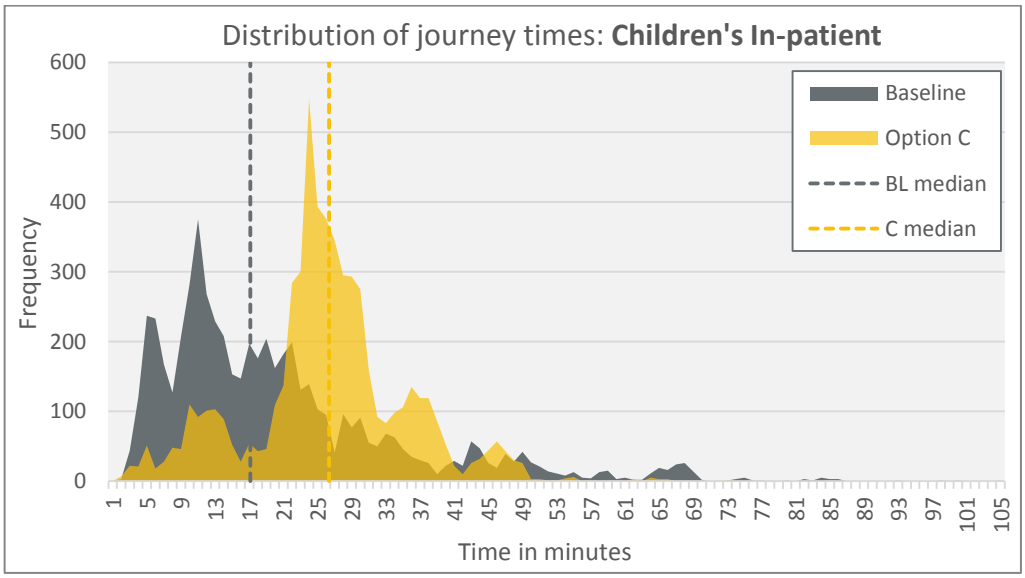
4.5.3 Likelihood and timescale of impact

Assuming the switch of services to an alternative site occurs overnight with no phased or parallel running, the impacts will be felt immediately. As the activity detailed above are the totals for 1 year, it would take 12 months for the full impact to be felt across this whole cohort of patients. Some children on wards at the time of the switch may require an internal transfer to the new site.

4.5.4 Direction and scale of impact - overall

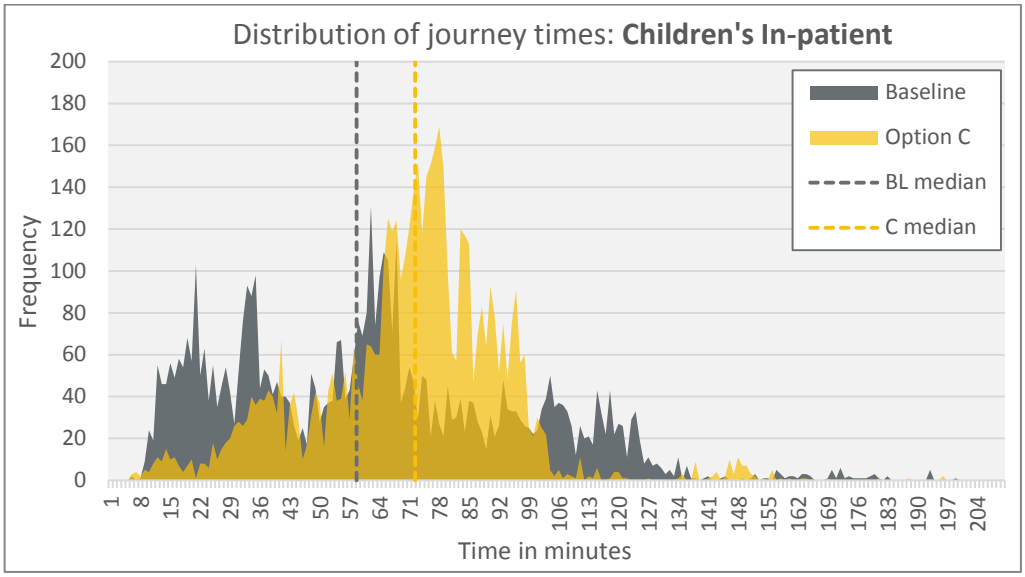
Under Option C1, 4,016 journeys would take longer and 1,675 would be quicker. The change in median travel across the whole future fit footprint for women who use this service would be an increase of 9.2 minutes (car) or 13.7 minutes (public transport) and an extra distance on average of 6.4 miles per patient.

Figure 4.5 Journey times for baseline and Option C1 – car/van travel



Source: SaTH 2015/16 data; Strategy Unit analysis.

Figure 4.6 Journey times for baseline and Option C1 – travel by Public Transport



Source: SaTH 2015/16 data; Strategy Unit analysis.

4.5.5 Direction and scale of impact – by area

Generally speaking, this change in service benefits women living in Oswestry, Powys, Shrewsbury & Atcham and South Shropshire in terms of access by car/van and additionally North Shropshire by public transport. Women living in Bridgnorth, Hadley Castle, Lakeside South and the Wrekin would generally have to travel further and longer to be admitted.

Table 4.4 Journey times for Option C1 – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
New time (car) mins	33.4	33.6	23.6	11.8	37.7	28.0	28.0	23.4	40.5
Change from base	9.3	5.4	-19.9	-11.5	-8.8	17.3	13.1	14.7	-20.0
New dist (car) mls	24.2	22.0	16.2	4.8	24.3	20.9	20.9	17.3	26.7
Change from base	10.0	3.8	-14.5	-9.3	-5.2	16.3	13.6	13.8	-14.9
New time (PT) mins	79.4	63.7	59.0	33.2	55.6	78.0	76.1	70.8	63.3
Change from base	8.6	-27.1	-42.5	-28.9	-23.4	37.0	23.5	42.2	-36.0

Source: SaTH 2015/16 data; Strategy Unit analysis.

Whilst the above assumes that all patients admitted to the children's ward would have first travelled to the main emergency site (RSH in Option C1), in reality they may have first presented at A&E or the UCC.

It is not possible with the data extracts used for this IIA to identify all these patients and estimate their presentation choice or pre-admission pathway however we can

derive the following using alternative SUS data for SaTH providers for the same period.

Of the activity admitted to the ward at PRH, 28 were transferred from RSH therefore those children would not have needed the transfer under Option C1.

1,953 children were admitted via A&E. Of those we estimate 31.1% (607) were ambulance conveyed therefore would have been taken directly to RSH site under Option C1. The remainder might have attended either the A&E at RSH or the UCC at PRH. Nearest-site analysis of the IIA data suggests 296 would self-convey to RSH leaving up to 1,049 children subsequently admitted who might have attended the UCC at PRH and therefore require an internal site transfer.

4.5.6 Potential equality effects

Age – 52% of cases admitted tend to come from the Telford side of the footprint, children of all ages are going to require further travel with much lower numbers experiencing better access by car or public transport.

Ethnic origin – The majority of children using this service are of White-British origin (81%) and more than twice as many would have longer journeys than shorter journeys in the new arrangement. This change would disproportionately affect Asian (247 out of 261), Black (59 out of 64) and Mixed (207 out of 239) ethnic groups journeys.

Deprivation – The vast majority of journeys in this cohort from the most deprived 10% of areas (using IMD deciles) of Future Fit (568 from 605) would be further and longer under this option. The effect reduces slightly for the rest of the deprivation scale but even in the most affluent 30 % of areas a majority of journeys (761 from 1,198) would be further and longer by any mode of transport.

4.6 Access to neonatal ward (all admissions)

4.6.1 Nature of potential impact

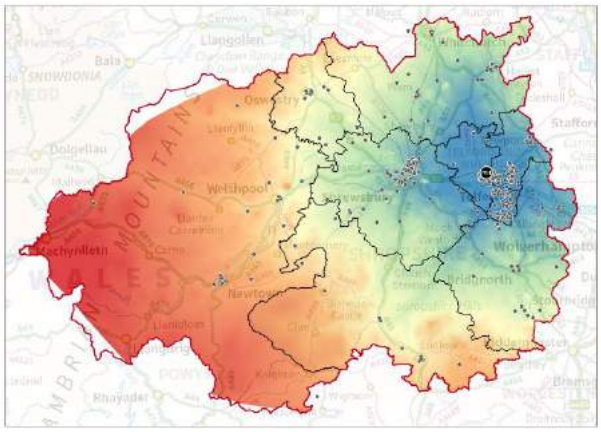
Whilst the clear majority of admissions to this ward are of babies directly after birth, therefore carry no direct additional access impacts, it is acknowledged the length of stay are much longer and therefore the ongoing travel of parents / carers should be considered. To allow for this, the information in this section relates to the whole cohort of neonatal ward patients as if their admission was direct from home regardless of admission method. A subsequent short narrative section details the potential impact on the small number of direct admissions where the baby was not already on site.

4.6.2 Baseline in a “do minimum” scenario

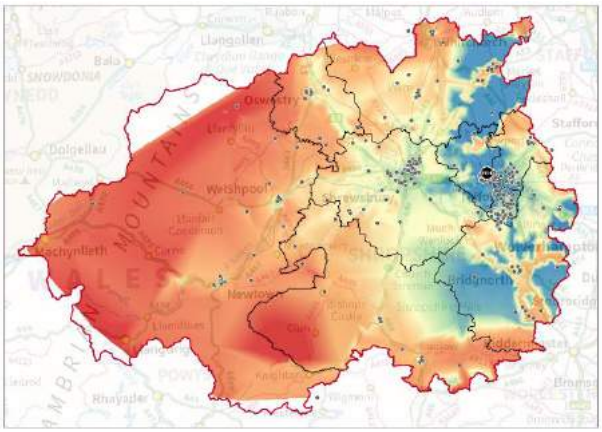
Baseline data indicates there were 359 babies from the Future Fit footprint admitted for a spell of care at the relevant PRH inpatient ward and for whom the travel of parents/carers may be an ongoing issue. No babies are currently admitted to RSH for this type of care.

Figure 4.7 Baseline patient locations and journey times

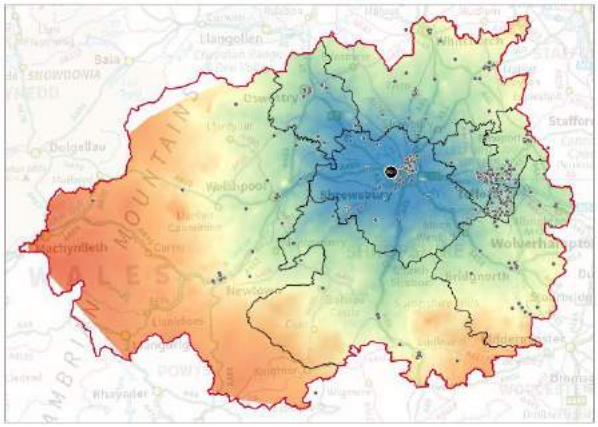
Patient locations and journey times to PRH by car *Patient locations and journey times to PRH by PT*

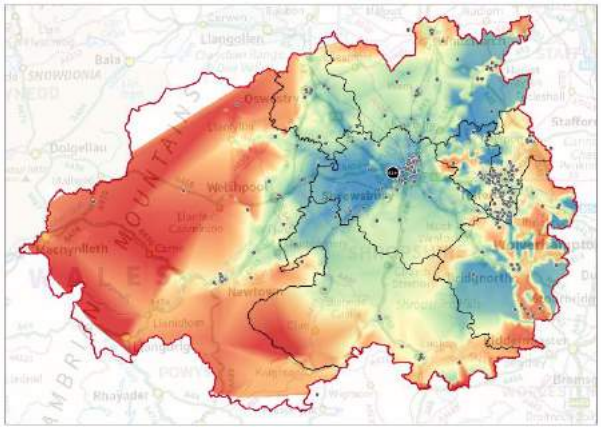


Patient locations and journey times to RSH by car



Patient locations and journey times to RSH by PT





Source: Strategy Unit analysis; Contains Ordnance Survey data © Crown copyright and database right 2014 and National Statistics data © Crown copyright and database right 2011, 2013, 2016.

The average current journey time for the whole set of patients is 23.6 minutes with an average distance travelled of 14.2 miles by car/van and with an average time of 60.8 minutes if travelling by Public Transport. This varies by locality.

Table 4.5 Baseline journey times – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
Journeys	33	32	18	70	14	68	44	51	29
Avg. time car (mins)	26.8	27.7	42.6	24.3	47.9	10.4	14.4	9.2	59.9
Avg. dist car (mls)	15.7	17.5	29.7	14.9	30.6	4.5	7.0	3.7	41.3
Avg. time PT (mins)	73.5	83.0	92.1	66.6	82.5	40.1	61.5	28.8	82.1

Source: SaTH 2015/16 data; Strategy Unit analysis.

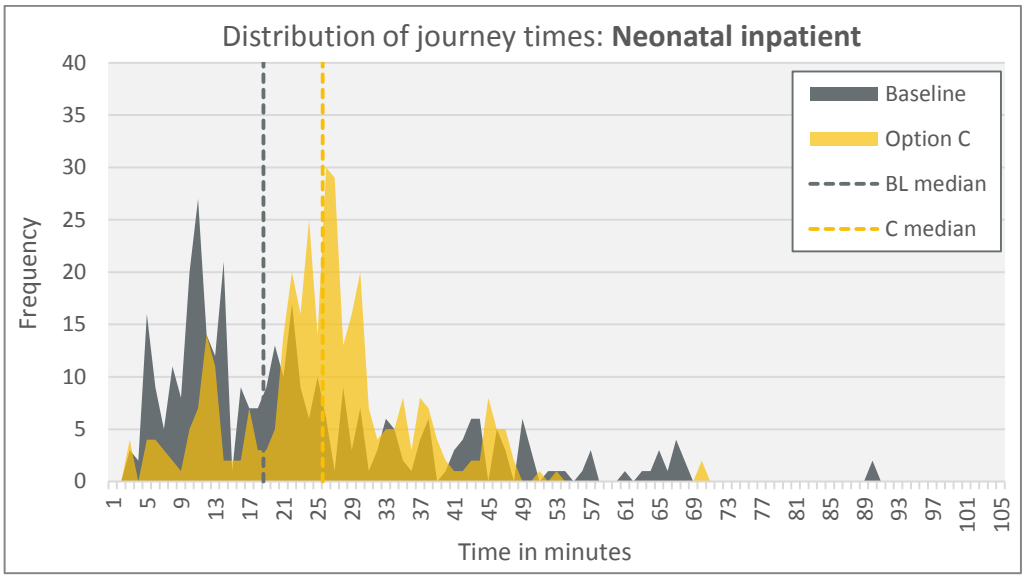
4.6.3 Likelihood and timescale of impact

Assuming the switch of services to an alternative site occurs overnight with no phased or parallel running, the impacts will be felt immediately. As the activity detailed above are the totals for 1 year, it would take 12 months for the full impact to be felt across this whole cohort of patients. Some women and their babies on wards at the time of the switch may require an internal transfer to the new site.

4.6.4 Direction and scale of impact – overall

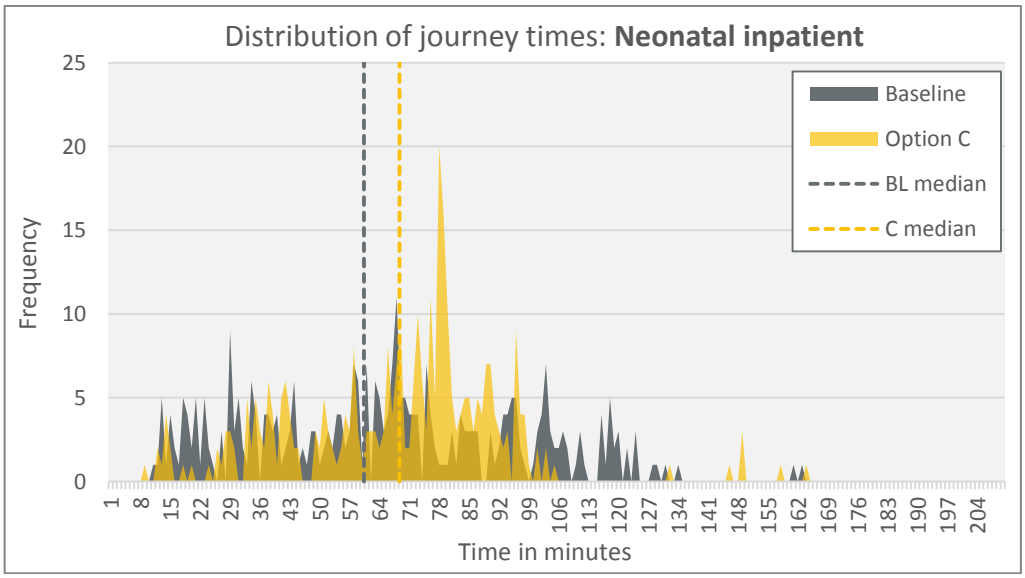
Under Option C1, 218 journeys would take longer and 141 would be quicker each time a visit was required. The change in median travel across the whole future fit footprint for women who use this service would be an increase of 6.8 minutes (car) or 9.0 minutes (public transport) and an extra distance on average of 3.8 miles per patient.

Figure 4.8 Journey times for baseline and Option C1 – car/van travel



Source: SaTH 2015/16 data; Strategy Unit analysis.

Figure 4.9 Journey times for baseline and Option C1 – travel by Public Transport



Source: SaTH 2015/16 data; Strategy Unit analysis.

4.6.5 Direction and scale of impact – by area

Generally speaking, this change in service benefits families living in Oswestry, Powys, Shrewsbury & Atcham and South Shropshire in terms of access by car/van

and additionally North Shropshire by public transport. Families living in Bridgnorth, Hadley Castle, Lakeside South and the Wrekin would generally have to travel further and longer to visit babies on the ward.

Table 4.6 Journey times for Option C1 – by area

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
New time (car) mins	36.0	32.7	22.6	11.8	39.0	27.8	27.5	23.3	39.9
Change from base	9.2	5.0	-19.9	-12.5	-8.9	17.4	13.1	14.2	-20.0
New dist (car) mls	25.1	20.8	15.5	4.8	25.6	20.7	20.6	17.7	26.5
Change from base	9.4	3.3	-14.2	-10.1	-5.1	16.2	13.6	14.0	-14.9
New time (PT) mins	81.9	57.7	52.7	33.7	54.5	78.5	83.1	70.9	53.2
Change from base	8.4	-25.3	-39.5	-32.9	-28.0	38.4	21.6	42.1	-28.8

Source: SaTH 2015/16 data; Strategy Unit analysis.

Whilst the above assumes that all patients admitted to the children's ward would have first travelled to the main emergency site (RSH in Option C1), in reality they are likely to have already been on site as a result of the delivery/birth episode.

4.6.6 Potential equality effects

Age – By definition, the patients themselves in this cohort are all babies. The maternal age of parents in the Telford area are slightly lower therefore younger families are likely to be adversely affected if the unit moves to Shrewsbury in terms of ongoing travel.

Ethnic origin – The majority of babies admitted to the ward are of White-British origin (84%) and around 60% more of these would need to travel further than nearer for ongoing visits. This change would disproportionately affect all Asian (9 out of 13), Black (11 out of 11) and mixed ethnic groups (9 out of 13).

Deprivation – The vast majority of journeys in this cohort and their family from the most deprived 20% of areas (using IMD deciles) of Future Fit (59 from 70) would be further and longer under this option. The effect generally reverses gradually along the deprivation scale and in the most affluent 20 % of areas, a minority of journeys (11 from 26) would be further and longer by any mode of transport.

Annexe 7 shows a breakdown of the percentage of C-section rates by risk category for SATH patients.

4.7 Access to neonatal ward (direct admissions)

4.7.1 Nature of potential impact

The impact on access to services would be minimal, given that for most parents the admission of the baby would follow directly from the birth – the patient would already be on site. A small number of direct or emergency neonatal admissions would bypass this and therefore require a separate and specific journey.

4.7.2 Baseline in a "do minimum" scenario

Baseline data indicates there were 359 separate spells of care on the relevant neonatal wards from Future Fit residents. All of these were at PRH site, therefore could potentially be affected in some way by a change.

- 2 babies were admissions direct from GPs
- 2 babies were emergency transfers from other providers
- 1 baby was an 'other' emergency admission
- 23 babies were non-emergency transfers from other providers
- 3 babies were admissions after birth outside the provider (not home birth) and
- the remainder therefore (n=328) were admitted after birth at PRH.

4.7.3 Likelihood and timescale of impact

Assuming the switch of services to an alternative site occurs overnight with no phased or parallel running, the impacts will be felt immediately. As the activity detailed above are the totals for 1 year, it would take 12 months for the full impact to be felt across this whole cohort of patients. Some mothers and their babies on wards at the time of the switch may require an internal transfer to the new site.

4.7.4 Direction and scale of impact – overall

For the 328 babies admitted after birth there would be no impact on access – they would already be on the same site under Option C1.

Of the 2 babies admitted by their GP 1 would be nearer (HRG of spell '*Major Congenital Conditions under 1 year with CC*' - 1 day LoS) to RSH and 1 would be further away (HRG of spell '*Phototherapy*' - 8 day LoS).

Of the 2 babies admitted from another provider in an emergency (1 with 72 day spell and the other with 14 day spell) there would be an estimated 15-20 minute additional blue-light journey before admission to the ward. It is unclear if either are time-critical cases.

The baby admitted as an 'other' emergency admission (HRG of spell '*Phototherapy*' – 3 day LoS) would have had to travel approximately 22 minutes further to RSH by car.

Of the 3 babies admitted after a birth outside the provider (but not at home as intended), 2 were closer to RSH and one was further away than PRH. All had length of stay < 1 week.

Of the 23 transfers (non-emergency) the average LoS was 27 days and the most common HRG were '*Minor neonatal Diagnosis*' (n=9) and '*Intradural Spine Minor 1'* (n=5).

4.7.5 Direction and scale of impact – by area

N/A.

4.7.6 Potential equality effects

Age – All the cases, by definition, are new or very young babies.

Ethnic origin – All of the cases (n=8) whom would have had a specific and different journey to RSH under Option C1 were White-British.

Deprivation – All of the cases (n=8) whom would have had a specific and different journey to RSH under Option C1 were from areas with different levels of deprivation from the most to least deprived.

5 Economic Impacts and Equality Effects

Local employment

- The changes proposed to Women's and Children's services under Option C1 could have a direct impact (on employment at each hospital site) and an indirect effect through multiplier effects.
- Option C1 would lead to a small increase in employment in Shropshire and Powys, offset by a decrease in employment in Telford and Wrekin. The overall impact of Option C1 across all areas is negligible.

Local business

- Multiplier effects can also have an impact on the number and performance of local businesses. However, across each option and in each area, the impact on local businesses is estimated to be negligible.

Local education/training opportunities

- As the impact of the proposed changes to Women and Children's service on employment levels is so small, it is likely that there will be no subsequent knock-on impact on local educational opportunities.

Local economy

- Changes in employment and local businesses in a local area could impact on the level of output (or income) in a local area, measured through Gross Value Added (GVA).
- It is projected that there would be a negligible increase in GVA in Shropshire under Option C1, a negligible decrease in Telford and Wrekin, and no impact in Powys.

Local house prices

- The changes proposed to Women's and Children's services under Option C1 are proposed to have a negligible impact on local house prices.

5.1 Local employment

5.1.1 Nature of potential impact

The level of employment at each hospital site will have an effect on the level of local employment. This is because the hospitals in each area are large employers, both currently employing over 2,000 staff. As a large employer the hospitals influence the local economy (and specifically the labour market) in two main ways: they buy goods and services from local businesses, creating businesses opportunities and employment in the local area; and the employees of the hospitals spend their earnings in the local area, again creating business and employment opportunities. These two effects are commonly known as 'multiplier effects', meaning the spending at the hospitals is worth more to the local economy than the total amount spent.

Each of the policy options would have an effect on local employment. This would be a direct effect (the number of people employed at each hospital site) and an indirect effect (through the multiplier effect).

The total number of individuals employed at each hospital site is discussed in the original impact assessment. This supplementary research focusses solely on employment in the Women's and Children's services department.

Currently, there are 548 WTE (685 headcount) employees based at the Princess Royal Hospital, and 44 WTE (61 headcount) based at the Royal Shrewsbury

Hospital. There are a further 44 WTE (63 headcount) based at other localities[107]. As these individuals work offsite and are unaffected by the changes under SSP, they have been excluded from the analysis. A further 22 WTE (28 headcount) are categorised as "Due to move offsite in December 2017", and have therefore been excluded from the analysis. SaTH estimated that the number of WTE roles (and headcount) in Women's and Children's services under Option B and C1 would remain unchanged; only the location of some staff would change.

The methodology used to estimate the multiplier effect of the employment in Women's and Children's services is described in more detail in the original impact assessment. A twenty year timescale is taken for projecting impacts. The employment multiplier is estimated to be 1.38 – for every job in children's and Women's services, 0.38 jobs are generated in the wider economy.

5.1.2 Baseline in a "do minimum" scenario

The number of WTE and headcount in the Women's and Children's services department at each hospital site in future years has been estimated using the same methodology outlined in the original impact assessment[108].

Using these calculations it has been estimated that there will be 603 WTE roles in 2024 (and to 760 headcount). By 2036, this is estimated to have risen to 625 WTE and 787 headcount.

The level of employment in each area has been modelled using the same methodology as described in the original impact assessment. The level of employment was estimated to be 302,000 in 2015, 313,000 in 2024 and 321,000 in 2036. Most of these workers were employed in the non-market services (28%) and trade, accommodation and transport (27%) sectors. Over half of the employment is in Shropshire (157,700; 52%).

5.1.3 Likelihood and timescale of impact

The evidence that there will be an impact from the preferred options on local employment is relatively broad and robust, suggesting it is highly likely to occur under each preferred option, although gradually rather than overnight.

5.1.4 Direction and scale of impact - overall

The level of employment in the local economy under each preferred option has been calculated using the same methodology as described in the original impact assessment. This shows that the number of individuals employed in children's and Women's services across both hospital sites remains largely unchanged. This is because the number of job roles in Women's and Children's services in SaTH does not change under any of the options, only the location of roles.

5.1.5 Direction and scale of impact - by area

The impact of the preferred options on employment could potentially vary by area, most notably between Shropshire and Telford and Wrekin. Under Option B, there

[107] Bridgnorth, Ludlow, Market Drayton and Oswestry.

[108] With the exception that the headcount information for employment in womens and childrens services at each site has been provided by SaTH, rather than estimated using a secondary data source.

would be a fall in the number of individuals employed at RSH (six fewer WTE in 2036) and an increase in the number employed at PRH (six more WTE in 2036). Under Option C1, there will be a large increase in employment at RSH (just under 500 WTE) and a decrease in employment at PRH (just under 500 WTE).

However, translating these changes into direct impacts on employment levels (and subsequent multiplier effects on wider employment) in each area is problematic. The reasons for this are explained in the original impact assessment. On the basis of assumptions of where individuals employed at the two hospitals live, it is likely that in Option B there will be a negligible, negative impact on employment in Shropshire and Powys and a negligible increase in employment in Telford and Wrekin.

In Option C1, there will be a larger impact on employment, due to more workers changing the site at which they are based. There will be an increase in employment in Shropshire and Powys, and a decrease in employment in Telford and Wrekin. The scale of this impact is estimated to be larger than the changes in Option B.

5.1.6 Potential equality effects

The posts which are being relocated in Women's and Children's services have been specified by SaTH. The vast majority of posts affected by the policy options are nursing and midwifery posts (including associate professionals), with nearly two thirds of workers affected falling into this category. Medical staff represent less than one fifth of those affected, with the remaining workers falling into management or administrative categories. This is broadly reflective of the total workforce in Women's and Children's services across the two sites, which means no group are being disproportionately affected by the options.

5.2 Local businesses

5.2.1 Nature of potential impact

The level of employment at each hospital could have an effect on the businesses in the local economy in the same way that wider local employment is affected, through multiplier effects. For businesses, this will have an impact on the number of businesses operating in a local area and their level of turnover and profitability.

The impact of the policy options on business have been assessed using the same methodology as set out in the original impact assessment.

5.2.2 Baseline in a "do minimum" scenario

The number of businesses currently based in Shropshire, Telford and Wrekin and Powys has been taken from the UK Business Count data. The number of enterprises has been used. This provides details of the number of enterprises based in each area disaggregated by sector up to 2015. In total across the three areas there were nearly 29,000 enterprises operating. Most of these enterprises were involved in the trade, accommodation and transport (28%) and business and other services (27%) sectors. Over half of the enterprises were based in Shropshire (15,200; 53%).

The methodology used to estimate the number of businesses operating in each local authority area is presented in the original impact assessment. The number of

businesses is estimated to grow from nearly 29,000 in 2015 to over 30,000 in 2036, with the sectoral breakdown remaining broadly the same as currently.

The total value of business turnover in the area was £39 billion (Annual Business Survey, 2014). The highest proportion of turnover is based in the trade, accommodation and transport (41%) and business and other services sectors (19%). Over half of the business turnover is for businesses based in Shropshire (53%; £21 billion). The methodology to estimate the future value of business turnover is presented in the original impact assessment. The value of business turnover in 2036 is estimated to be £49 billion.

5.2.3 Likelihood and timescale of impact

Given that the level of employment is expected to change, the likelihood of the number of businesses and level of business turnover changing is high. The impact is likely to follow a similar timescale as set out for the changes to employment.

5.2.4 Direction and scale of impact - overall

The number of businesses operating in each policy option has been estimated in the same way as in the original impact assessment. In Option B, the changes in employment are negligible, therefore it is estimated that there will be no change in the number of businesses. In Option C1, there is estimated to be a small increase in the total number of businesses (nine businesses by 2036). This is an increase of less than 0.1% in the total number of businesses.

The scale of the change in business turnover is estimated in the same way as in the original impact assessment. The scale of the projected impact on Net Present Value (NPV) business turnover is small under each of the options. In Option B, the impact is estimated to be a decrease of under £5 million over the twenty year period (a change of less than 0.001%). In Option C1, it is estimated that the NPV of business turnover will increase by over £500 million over the twenty year period (an increase of less than 0.01%).

5.2.5 Direction and scale of impact - by area

It is not possible to quantitatively analyse the relative impacts on businesses in each of the three areas for the same reasons as those set out in relation to impacts on employment. If there was any geographical variation in the distribution of these impacts, it would be similar to that of the projected employment effects suggested in section 4.1.5, i.e. any positive and negative impacts on employment levels in Shropshire or Telford and Wrekin under each option may be reflected in positive and negative impacts on local businesses in these areas.

5.2.6 Potential equality effects

There are no obvious equality effects arising out of this impact.

5.3 Local education / training opportunities

5.3.1 Nature of potential impact

The introduction of any of the policy options could have an impact on the number of people undertaking qualifications at local colleges and universities if the total number of jobs in the health sector is affected. For example, if there is a large increase in the number of staff required, then the number of people undertaking medical related courses could increase to meet the employment needs of the hospital. However, if there is a decrease in demand for employees at local hospitals, people may be discouraged from obtaining qualifications in the health sector as employment opportunities diminish.

5.3.2 Baseline in a "do minimum" scenario

There is limited information about the number of individuals studying for health related qualifications. The number of individuals undertaking apprenticeships in each local authority area in England is provided by the Skills Funding Agency (SFA), although there is no comparable data for Wales. The number of apprenticeships starts in health, public services and care in 2015 was over 1,200 in Shropshire and Telford and Wrekin. The majority of these (760; 62%) were in Shropshire. It has not been possible to estimate the anticipated number of apprenticeship starts in future years.

There is one university operating in Shropshire, Telford and Wrekin and Powys – a site in Shrewsbury that forms part of the University of Chester. Unfortunately, statistics for the number of learners studying particular courses at a specific site are not available, although information by institution and course is available. In 2014 there were nearly 11,000 individuals studying undergraduate courses and over 4,000 individuals studying post-graduate courses relating to health at the University of Chester. A proportion of these individuals would be based in Shrewsbury, although it is not possible from the statistics to say what proportion. It has not been possible to estimate the anticipated number of undergraduate and post-graduate students in future years.

5.3.3 Likelihood and timescale of impact

It is anticipated that there will be no overall impact from any of the options on the provision of education in health related subjects in the three areas analysed. This is because the total number of posts in Women's and Children's services at SaTH will remain the same, as the posts are being redistributed between hospitals in the area.

5.3.4 Direction and scale of impact - overall

It is anticipated that will be no impact from any of the options on the provision of education in health related subjects in any of the three areas analysed.

5.3.5 Direction and scale of impact - by area

It is not anticipated to be any equality effects from any changes in the provision of education in any of the options.

5.4 Local economy

5.4.1 Nature of potential impact

The options could have an impact on local economic performance. Changes in employment and local business would impact on the level of output (or income) in a local area, measured through Gross Value Added (GVA)[109]. The main inputs into GVA are the level of earnings (wages) paid to workers, and the profits generated by businesses. Therefore, changes in employment at a hospital will affect the local GVA measure through changes in staff earnings employed at the hospital site, and changes in profits for businesses in the area.

The multiplier effect of hospital employment on the local economy is discussed in more detail in the original impact assessment, and in this research is estimated to be 1.25 - for every £1 earned by staff working at a hospital the regional economy generates £1.25 of income.

5.4.2 Baseline in a "do minimum" scenario

The level of local GVA has been taken from the Regional Gross Value Added dataset from the national annual accounts. In 2014, the total GVA generated in the three areas was £13.5 billion. The largest proportion of GVA is in the business and other services (24%) and trade, accommodation and transport (22%) sectors. Half of the GVA generated in the region is generated in Shropshire.

The methodology used to estimate the value of local GVA in future years is presented in the original impact assessment. In the baseline scenario, regional GVA is projected to increase to £17.2 billion by 2036.

5.4.3 Likelihood and timescale of impact

The evidence of the effect of changing employment at hospital sites on local income is fairly well established and robust. Given the level of employment is expected to change in each area, the level of GVA is highly likely to be affected. The impact is likely to follow a similar timescale as set out for the changes to employment.

5.4.4 Direction and scale of impact - overall

The methodology used to estimate the change in GVA in each option is set out in the original impact assessment. In the baseline scenario, the NPV of GVA across the three local authority areas is estimated to be £255,554 billion. Under Option B, this is not estimated to change. Under Option C1, the value of GVA is estimated to increase to £255,605 billion over twenty years. This is an increase of 0.02% over the twenty year period.

5.4.5 Direction and scale of impact - by area

It is not possible to quantitatively analyse the relative impacts on local economies in each of the three areas for the same reasons as those set out in relation to impacts on local employment and local businesses. If there was any geographical variation in the distribution of these impacts, it would be similar to that of the projected

[109] Gross Value Added (GVA) is the measure of the value of goods and services produced in an area.

employment effects suggested in section 4.1.5, i.e. any positive and negative impacts on employment levels in Shropshire or Telford and Wrekin under each option may be reflected in positive and negative impacts on the local economies in these areas.

5.4.6 Potential equality effects

It is not possible to distinguish which groups will benefit from this impact over any other group, as regional GVA is a measure of regional output and does not affect individual groups.

5.5 Local house prices

5.5.1 Nature of potential impact

The introduction of the policy options could have an impact on house prices in two ways. Firstly, the policy options will affect the level of employment in a local area, which could in turn affect house prices (through changes in income, risk of unemployment and defaulting on mortgages and potential movement in and out of the area). Secondly, the distance from a hospital or specific hospital departments (for example Accident and Emergency or maternity services) could have an influence on house prices.

The methodology to estimate the impact of the options on house prices is discussed in more detail in the original impact assessment. The change in house prices is assumed to be driven by changes in the unemployment rate. It has been assumed that the effect of unemployment on house prices in the area is -0.27: namely that for every 1% increase in the unemployment rate, house prices decrease by 0.27%.

5.5.2 Baseline in a “do minimum” scenario

The value of property in the three areas has been collected from the House Price Statistics for Small Areas (HPSSAs) release from the ONS. The average value of a property is highest in Shropshire (£177,000), followed by Powys (£160,000) and Telford and Wrekin (£145,000).

The methodology used to estimate the change in house prices up to 2036 is presented in the original impact assessment. House prices are expected to grow in all areas up to 2036. House price growth is anticipated to be slightly higher in the West Midlands than in Wales. Overall, average house prices across the catchment area are projected to rise to £250,000 by 2036.

5.5.3 Likelihood and timescale of impact

Although most of the evidence suggests a negative relationship between unemployment and house prices, there are few statistically significant results from econometric models for the UK market. Therefore, although it is suggested that house prices will change in the three areas, it is not certain that this impact will be realised.

5.5.4 Direction and scale of impact - overall

The methodology used to estimate the impact of the options on house prices is presented in the original impact assessment.

Under the baseline scenario, average house prices across the catchment area are projected to have increased by approximately £76,000 in 2036. This compares to an increase of £76,100 under Option B and £74,300 under Option C1.

5.5.5 Direction and scale of impact - by area

The projected impacts on house prices are a function of the impacts of the preferred options on employment levels, and there are the same difficulties with differentiating these impacts between Shropshire, Telford and Wrekin and Powys. If there was any geographical variation in the distribution of these impacts, it would be similar to that of the projected employment effects suggested in section 4.1.5, i.e. any positive and negative impacts on employment levels in Shropshire or Telford and Wrekin under each option may be reflected in positive and negative impacts on house prices in these areas.

5.5.6 Potential equality effects

Higher income groups, who are most likely to own their own home in the catchment area, may be disproportionately affected by the impact of the preferred options on house prices - although they will still benefit from substantial increases in the value of their home by 2036 under each of the preferred options.

6 Social Impacts and Equality Effects

Local community cohesion

- The impact of the proposed changes to Women's and Children's services on community cohesion is currently uncertain but unlikely to be significant at the scale of the catchment area as a whole.
- Equally any volunteering activities tied to in-patient Women's and Children's services at PRH would potentially be affected if these are transferred to RSH, which could have a marginal negative impact on community cohesion in Telford and Wrekin.
- Any impact on community cohesion may disproportionately affect groups that are vulnerable to prejudice or discrimination, namely BAME, LGBT and disabled groups.

Local well-being

- How healthy people feel is a key determinant of their well-being, and as the proposed changes are projected to have a positive impact on the health of women and children, they would also contribute positively to local well-being.
- Interviewees suggested that the proposed changes could contribute to increased anxiety for some women and children, due to longer and more complex journeys or the unfamiliarity of the RSH site.
- Women and children with a visual impairment may be disproportionately at risk of experiencing anxiety related to unfamiliar journeys routes and building layouts.

Local deprivation

- Deprivation is partly a product of the local population's income, health and access to services. The proposed changes would have a small positive and negative impacts in these areas, meaning no significant overall impact on deprivation.
- Increased transport costs to access Women's and Children's services could disproportionately affect residents in Telford and Wrekin, and those already living in or close to deprivation would be most a risk of any negative impact.

Local traffic/congestion levels

- Around 21,000 road journeys per annum would be undertaken to RSH rather than PRH under Option C1. This represents a small proportion of all travel to access the two hospital sites, which accounts for over 800,000 road journeys per annum. Consequently the changes could have a small negative impact on congestion levels in and around Shrewsbury (and a small positive one in and around Telford).

This chapter presents evidence on the projected social impacts and equality effects of the proposed changes to Women's and Children's services.

6.1 Local community cohesion

6.1.1 Nature of potential impact

Hospitals provide a public space where different members of the community interact and they provide opportunities for civic engagement, in the form of volunteering[110]. Physical design features of hospitals (including hospital gardens) can also facilitate social interaction[111]. If the changes to Women and Children's services under Option C1 affect the extent to which either of the hospitals can perform these roles in the future, this could have an impact on local community cohesion.

6.1.2 Baseline in a "do minimum" scenario

As many as 950 local community members currently volunteer at both hospital sites, in activities including lunch clubs and social groups[112]. There are also currently four volunteer-run shops at RSH and one at PRH. In addition there are two courtyard gardens at PRH and a wildlife garden at RSH.

It is not possible to separate out or quantify the specific contribution that Women's and Children's services at PRH currently make to local community cohesion. However it is reasonable to expect that this contribution is a positive one and would continue to be under a baseline scenario.

As reported in the main IIA report, current levels of community cohesion are broadly in line with the national average in Telford and Wrekin and above average in Shropshire and Powys.

6.1.3 Likelihood and timescale of impact

The likelihood and timescale of this impact is currently uncertain. No plans have yet been published for changing or relocating any of the existing volunteering activities, shops or public gardens at either hospital site under the options being considered.

6.1.4 Direction and scale of impact - overall

This is also currently uncertain, but at the overall scale of the catchment area any impact is not likely to be very significant. Women and Children's in-patient services are only one element of hospital provision and hospitals themselves are only one contributory factor to an area's community cohesiveness. Relocating the services would also not necessarily mean that their contribution to community cohesion within the catchment area as a whole would be lost.

6.1.5 Direction and scale of impact - by area

Option C1 could have a small-scale negative impact on community cohesion in Telford and Wrekin. Relocating in-patient Women's and Children's services from PRH to RSH would potentially mean that any volunteering activities tied to these services had to be relocated as well. This could feasibly affect any local volunteers

[110] The King's Fund (2013) Volunteering in health and care; DCLG (2009) Guidance for local authorities on how to mainstream community cohesion into other services.

[111] Ulrich R (1999) Effects of gardens on health outcomes: Theory and research. Cooper Marcus & Barnes (Eds.), Healing Gardens: New York: Wiley.

[112] SaTH (2015) 2014/15 Annual Report.

who live in Telford and faced practical or financial barriers to travelling to RSH to continue their volunteering. As such, any negative impact would predominantly be felt by residents in Telford and Wrekin. Conversely it could also have a small-scale positive impact on Shropshire by creating new volunteering opportunities at RSH.

6.1.6 Potential equality effects

As reported in the main IIA report, the effects of any negative impact on community cohesion may be disproportionately experienced by groups that are already vulnerable to forms of prejudice or discrimination, namely BAME, LGBT and disabled groups[113].

6.1.7 Nature of potential impact

How healthy people feel is one of the main determinants of their personal well-being. For example, Table 6.1 displays the findings of regression analysis by the Office for National Statistics of the unique contribution of different variables to four dimensions of personal well-being.

Table 6.1 The contribution of variables to explained variance in personal well-being

	Anxiety	Happiness	Self-worth	Life satisfaction
Self-reported health	Large	Large	Large	Large
Marital status	Very Small	Moderate	Moderate	Large
Age	Small	Small	Very Small	Moderate
Ethnicity	Very Small	Very Small	Very Small	Small
Religion	Very Small	Small	Small	Very Small
Socio-economic status	Very Small	Very Small	Very Small	Very Small
Index of multiple deprivation decile	Very Small	Very Small	Very Small	Very Small

Source: Office for National Statistics (2013) Measuring National Well-being – What matters most to Personal Well-being?

If the changes to Women's and Children's services under Option C1 had negative or positive impact on health, then this could have a knock-on impact on the personal well-being of the affected local population.

It is also feasible that other impacts of the changes (not reflected in the ONS analysis) could have a knock-on impact on levels of personal well-being. Specifically, interviewees suggested that the changes could contribute to increased anxiety amongst some pregnant women, children and their families, due to longer or more complex journeys to accessing the services and the unfamiliarity of the RSH site. Certain groups of the population were also thought to be particularly vulnerable in this respect – see discussion of potential equality effects in section 5.2.6.

[113] The Home Office (2015) Hate crimes, England and Wales, 2014/15.

6.1.8 Baseline in a "do minimum" scenario

Current levels of personal well-being in the catchment area are very similar to the national average, and there is little difference between Shropshire, Telford and Wrekin and Powys[114].

6.1.9 Likelihood and timescale of impact

If the projected health and access impacts of the preferred options reported in Chapter 3 occur then these are very likely to have some knock-on impact on local levels of well-being, and to do so in a similar timescale. Any impacts arising out of the unfamiliarity of accessing Women's and Children's services at RSH may be more temporal. It is feasible that over time this unfamiliarity would erode over time.

6.1.10 Direction and scale of impact - overall

The findings reported in Chapter 3 highlight that the projected health impacts of the proposed changes to Women's and Children's services under Option C1 are positive at the scale of the catchment area as a whole. This indicates that the impact on well-being would also be positive and long-term, due to the role of health as a strong determinate of well-being. Anxiety caused by the proposed changes could have a negative impact on well-being in the short-term. Taking these both into account, the impact on well-being may be positive but small-scale.

6.1.11 Direction and scale of impact - by area

The impacts on Option C1 on health are projected to be experienced by women and children equally across the catchment area, and therefore any knock-on impacts on well-being will also be felt by all. Increased anxiety, causes by longer and more complex journeys or the unfamiliarity of the RSH site, may be experienced most by women and children in Telford and Wrekin. Equally, some patients in Shropshire and the affected parts of Powys may also currently access specialist Women's and Children's services at PRH and would find doing so at RSH unfamiliar too.

6.1.12 Potential equality effects

Women and children with a visual impairment could be disproportionately affected by some of the potential well-being impacts discussed above. Specifically, one interviewee highlighted the challenges a visual impairment can pose to navigating public transport systems and buildings such as hospitals. These challenges are compounded when these systems and buildings are unfamiliar to the individual. Therefore women and children with a visual impairment may be particularly affected by feelings of anxiety caused by the proposed changes, and these may persist for longer as they take time to build their familiarity with new travel routes and building layouts.

[114] Office for National Statistics (2016) Annual Population Survey Personal Well-being dataset: April 2012 to March 2015.

6.2 Local deprivation

6.2.1 Nature of potential impact

The Index of Multiple Deprivation (IMD) is the most widely used measure of deprivation in the UK. It is based on different domains (including income, health, access to services, and environment) which are used to calculate an overall measure of deprivation[115]. If the changes to Women's and Children's services proposed under Option C1 had an impact in one or more of these domains then this can be expected to have a subsequent impact on levels of overall deprivation in the catchment area.

6.2.2 Baseline in a "do minimum" scenario

Evidence presented in Chapter 2 illustrates that the proportion of women and children living in deprivation is 10.9% across the catchment area as a whole - but with some notable variations by area. It is highest in Telford and Wrekin (26.2% of women and 31.1% of children), followed by Powys (4.7% of women and 6.4% of children), and Shropshire (4.3% of women and 6.0% of children. By locality, rates of deprivation are highest in Lakeside South, The Wrekin, and Hadley Castle (see Annex 3 for further data by locality).

Any impacts on deprivation could also be felt more widely, i.e. not just by women and children. The main IIA report provides evidence on the levels of deprivation for all members of the population.

6.2.3 Likelihood and timescale of impact

The changes to Women's and Children's services proposed under Option C1 are likely to have some level of impact on deprivation. This is due to the projected impacts of the changes in several of the domains that contribute to overall deprivation, namely: health and access (see chapter 3), income (see chapter 4), and environment (see chapter 6). The impact on deprivation is likely to be felt over time as these other contributory impacts emerge.

6.2.4 Direction and scale of impact - overall

Table 6.2 summarises the projected impacts of the changes to Women's and Children's services under Option C1 in different deprivation domains. NB. Some of the English and Welsh IMD domains have been amalgamated here for ease of comparison.

Table 6.2 Projected impacts of changes to Women's and Children's services on deprivation domains

Domains	Projected impacts
Income and employment	minimal negative
Education, skills and training	neutral / uncertain

[115] The English IMD and Welsh IMD use slightly different domains and weightings. English IMD: Income (22.5%); Employment (22.5%); Education, Skills and Training (13.5%); Health and Disability (13.5%); Crime (9.3%); Barriers to Housing and Services (9.3%); and Living Environment (9.3%). Welsh IMD: Income (23.5%); Employment (23.5%); Education (14.0%); Health (14.0%); Access to Services (10.0%); Community Safety (5.0%); Housing (5.0%); and Physical Environment (5.0%).

Domains	Projected impacts
Health	minimal positive
Access to services	minimal positive
Physical & living environment	neutral / uncertain

Source: ICF analysis

This indicates that at the overall scale of the catchment area, the impact of the changes to Women's and Children's services under Option C1 would not be significantly positive or negative. If anything, a minimal positive impact might be expected.

6.2.5 Direction and scale of impact - by area

There are no major differences by area in the scale or direction of most impacts that contribute towards deprivation, indicating that the overall impact on deprivation would also be largely the same in each area. The only exception to this is the impact on "Access to services". This is projected to be a moderate negative impact in Telford and Wrekin but a minimal positive impact in Shropshire and the affected parts of Powys. This indicates that the overall impact on deprivation in Telford and Wrekin may be a minimal negative one, compared to a minimal positive impact in Shropshire and the affected parts of Powys.

Some interviewees also highlighted that women, children and others living on a low income in Telford and Wrekin would be adversely affected by having to pay more to access Women's and Children's services by public transport if they were moved to RSH.

6.2.6 Potential equality effects

There are no obvious equality effects arising from this impact, as all residents in the catchment area could experience some small effect on their levels of deprivation. Equally, this effect may be felt most acutely by those who are already living close to or in deprivation.

6.3 Local traffic/congestion levels

6.3.1 Nature of potential impact

The relocation of in-patient Women's and Children's services proposed under Option C1 could contribute to an increase in local traffic/congestion levels in and around Shrewsbury (and a comparable decrease in and around Telford).

6.3.2 Baseline in a "do minimum" scenario

The catchment area as a whole has comparatively low levels of congestion, reflected in the fact that the average vehicle speed during the weekday morning peak on locally managed A roads is significantly higher in Shropshire, Telford and Wrekin and Powys than the national average[116]. Equally, the Shropshire Local Transport Plan 2011-2026 highlights that there are a small number of congestion hot

[116] Department for Transport (2015) Average vehicle speeds (flow-weighted) during the weekday morning peak on locally managed 'A' roads: by local authority in England.

spots in and around Shrewsbury. Congestion is also identified as a significant future challenge in the Telford and Wrekin Local Transport Plan 2011-2026 owing to its rapidly increasing population size and new house building.

6.3.3 Likelihood and timescale of impact

This impact is highly likely to occur and would do so from the point when in-patients services were relocated to RSH.

6.3.4 Direction and scale of impact – overall

At the scale of the catchment area as a whole this impact would be neutral. Any increase in traffic and congestion levels in Shropshire would, all other things being equal, be off-set by a broadly comparable decrease in Telford and Wrekin.

6.3.5 Direction and scale of impact - by area

There would be a minimal negative impact on traffic and congestion levels in Shropshire and a minimal positive impact in Telford and Wrekin. The scale of these impacts would be very small. Journeys to hospital represent less than 0.5% of all vehicle miles driven in the catchment area[117] and only a small proportion of journeys to hospital are to access in-patient Women's and Children's services. Out of the 809,557 journeys to access hospital services in the catchment area in 2015/16, 21,232 of these were to access in-patient Women's and Children's services. In comparison, there were over 112,401 journeys to access emergency care services in the same period. Consequently the impact of the proposed changes to Women's and Children's services on local traffic and congestion levels would be of a smaller scale than the impact of the proposed changes to acute services under the Future Fit options.

6.3.6 Potential equality effects

Given the limited scale of this impact, there are not projected to be any significant potential equality effects. As highlighted in the main IIA report, middle-aged men with a higher income are the most likely to be affected by any impact on congestion because on average they drive more than other groups.

[117] Based on SaTH 2015/16 data and Department for Transport (2016) Traffic count data.

7 Environmental Impacts and Equality Effects

Greenhouse gas emissions

- New build to accommodate the relocated Women's and Children's services and changes in the volume of vehicle miles driven to access these services under Option C1 would potentially impact on greenhouse emissions.
- The direction and scale of this impact is uncertain. Data is not available on the current or projected carbon footprint of the relevant buildings. There would be a small increase in greenhouse gas emissions from road journeys to access the relocated services.

Air pollution

- Road traffic is a significant contributor to air pollution, and the projected increase in the volume of vehicle miles driven to access the relocated Women's and Children's services under Option C1 would marginally increase the emission of pollutants such as particulate matter and CO2.
- Any impacts on air pollution levels would be greatest in Shropshire, and specifically in the areas immediately surrounding the roads that serve RSH.
- Air pollution can have a disproportionately adverse effect on: older people; people with pre-existing long-term health conditions; pregnant women; and young children.

Noise pollution

- Noise pollution from ambulance sirens would potentially increase in and around RSH as a consequence of the relocation of Women's and Children's services to this site under Option C1.
- However, as most users of these services are not conveyed by ambulance the scale of this impact would be small, particularly in comparison to the impact of the potential changes to emergency care services.
- If any localised impact on noise pollution is experienced, then young people may be particularly affected. They are more vulnerable to the potential negative effects of noise pollution than other age groups.

Biodiversity

- Impacts on biodiversity are currently uncertain. Neither hospital site is home to habitats that are officially designated as having a high biodiversity value but both have gardens.
- New build to accommodate Women's and Children's services relocated to RSH could potentially have an impact but more detailed architectural plans and environment survey work would be required to test this.

Cultural heritage

- The proposed changes are projected to have no significant impact on cultural heritage.

This chapter presents evidence on the projected environmental impacts and equality effects of the proposed changes to Women's and Children's services.

7.1 Greenhouse gas emissions

7.1.1 Nature of potential impact

There are two principle ways in which the changes to Women's and Children's services proposed could impact on greenhouse gas emissions:

- New build at the RSH site to accommodate the relocated services, which could lead to changes in energy consumption and emissions.
- Changes in the volume of road travel to access Women's and Children's services, which would also lead to changes in resultant emissions.

7.1.2 Baseline in a "do minimum" scenario

Data is not readily available on the carbon footprint of the buildings that accommodate the relevant Women's and Children's services but it is known that the total buildings-related CO2 emissions of both hospital sites combined is currently approximately 20,109 tonnes per annum[118].

Based on SaTH 2015/16 data and DECC emissions figures[119] journeys to in-patient Women's and Children's services currently generate approximately 77.9 tonnes of CO2 per annum. The current carbon footprint of journeys to access all hospital services in the catchment area is 3115.3 tonnes of CO2 per annum.

7.1.3 Likelihood and timescale of impact

This impact is likely to occur, starting from when the relevant services were relocated from PRH to RSH.

7.1.4 Direction and scale of impact - overall

The impact of the proposed changes on greenhouse gas emissions is uncertain but likely to be small scale.

Under Option B, there would be no new build specifically on account of any changes to Women's and Children's services, and only a negligible increase in vehicles miles driven to access these services of 2,030 miles per annum.

Under Option C1, it is proposed that the relocated Women's and Children's services will be located within the new build planned to accommodate Emergency Care services at the site (see architectural plans in Annex 6). New buildings typically have lower emissions than existing buildings and SaTH have also stated that all new build will be undertaken to meet BREEAM excellent standards, which would place them in the top 10% of UK new non-domestic buildings based on a range of characteristics including environmental performance[120]. The existing Women and Children's Centre at PRH, which was built relatively recently in 2015 to similar standards, would be retained. This implies a small potential increase in buildings-related CO2 emissions under Option C1, but further analysis would be required to fully assess the net

[118] SaTH (2015) SaTH Trust Board – 3 December 2015, Sustainability Update.

[119] https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2016

[120] www.breeam.com/BREEAM2011SchemeDocument/Content/03_ScoringRating/breeam_assessment_issues_and_credits.htm

impact of this and other changes proposed under Future Fit on SaTH's buildings-related carbon footprint.

It is projected that the number of road vehicle miles driven to access Women's and Children's services would increase by 73,502 miles per annum under Option C1. This may appear counterintuitive, given the slightly more central position of RSH in the catchment area than PRH. However, it reflects the higher concentration of women and children in the population of Telford and Wrekin than in Shropshire and the affected parts of Powys (see chapter 2). There are also parts of East Shropshire that are closer to PRH than RSH. The result would be an increase of 21.96 tonnes of CO2 per annum. This would represent a 0.7% increase in the current carbon footprint of journeys to access all hospital services in the catchment area.

7.1.5 Direction and scale of impact - by area

Greenhouse gas emissions, and the resultant consequences of climate change, are an impact felt globally. As such, no significant overall variations between Shropshire, Telford and Wrekin and Powys are expected for this impact.

7.1.6 Potential equality effects

Greenhouse gas emissions, and the resultant consequences of climate change, would also potentially affect every group in the population. As noted in the main IIA report, there is evidence older people are more severely affected by elevated summer temperatures than other age groups. However, more broadly the long-term effects of climate change will be felt most by future generations, meaning the younger people of today may ultimately be most affected.

7.2 Air pollution

7.2.1 Nature of potential impact

Any increase or decrease in the volume of road travel caused by the changes to Women's and Children's services would have a resultant impact on air pollution. Road traffic is a significant contributor to air pollution, mainly in the form of particulate matter (PM) and nitrogen dioxide (NO2).

7.2.2 Baseline in a "do minimum" scenario

As reported in the main IIA report, concentrations of particulate matter and nitrogen dioxide in Powys, Shropshire and Telford and Wrekin are currently below the national average[121]. It is not possible to quantify the specific contribution of journeys to Women's and Children's services to existing levels of air pollution in the catchment area but this is likely to be small. Journeys to access all hospital services currently account for under 0.5% of the total vehicles miles driven in the catchment area, and journeys to access Women's and Children's services specifically would represent an even smaller proportion of this (i.e. under 0.2%).

[121] Public Health England (2014) Estimating local mortality burdens associated with particulate air pollution; Defra (2014) Background Mapping data for local authorities – 2013; Defra (2014) Air pollution in the UK.

7.2.3 Likelihood and timescale of impact

This impact is likely to occur, starting from when the relevant Women's and Children's services were relocated.

7.2.4 Direction and scale of impact - overall

As reported in section 7.1, Option C1 is projected to lead to an increase in the road vehicle miles driven to access Women's and Children's services. This would therefore contribute to an equivalent increase in the emissions of particulate matter and nitrogen dioxide. However, at the scale of the catchment area as a whole this impact would be minimal. Even accounting for the projected increase under Option C1, journeys to access Women's and Children's services would still only account for less than 0.2% of all road vehicle miles driven in the catchment area.

7.2.5 Direction and scale of impact - by area

Any impact on air pollution levels under Option C1 would be greatest in Shropshire, and specifically in the areas immediately surrounding the roads that serve RSH. Particulate matter and nitrogen dioxide is widely dispersed in the atmosphere but concentrations are highest at the point of emission[122].

7.2.6 Potential equality effects

Given the small projected scale of this impact there would not be any significant equality effects. Nonetheless, evidence reviewed in the main IIA report highlighted that air pollution can have a disproportionately adverse effect on the following groups: older people; people with pre-existing long-term health conditions; pregnant women; and young children. Any negative equality effect arising from this impact would therefore potentially be felt by these groups.

7.3 Noise pollution

7.3.1 Nature of potential impact

The main IIA projected that changes to acute hospital provision under the preferred Future Fit options would impact on localised levels of noise pollution, due to an increased number of blue light ambulance journeys to access acute services at one or other of the hospital sites. The changes to Women's and Children's services proposed under Option C1 would also have a similar impact if they led to increased blue light ambulance journeys to access these services at RSH (and decreased journeys to PRH).

7.3.2 Baseline in a "do minimum" scenario

Data is not readily available on the current baseline number of blue light ambulance journeys to Women's and Children's services in the catchment area. However, this number will be relative small - certainly in comparison to the number of blue light ambulance journeys to acute services. As reported in the main IIA report, in 2015/16

[122] RAC Foundation (2014) Air Quality and Road Transport: Impacts and Solutions.

there were just over 30,000 A&E attendances that arrived by ambulance at PRH and RSH combined.

7.3.3 Likelihood and timescale of impact

This impact is likely to occur under Option C1, starting from when the relevant Women's and Children's services were relocated.

7.3.4 Direction and scale of impact - overall

At the scale the catchment area as a whole, this impact would be neutral. Any increase in noise pollution at one location is likely to be offset by a broadly commensuration decrease at another location.

7.3.5 Direction and scale of impact - by area

Noise pollution from ambulance sirens would potentially be increased in the immediate vicinity of roads that serve RSH and decreased on roads in the immediate vicinity of roads that serve PRH. However, further data and analysis would be required to quantify the scale of this impact.

7.3.6 Potential equality effects

Evidence reviewed in the main IIA report highlighted that children have an increased vulnerability to the potential negative effects of noise pollution – in terms of their health, educational and social development. As such children living in the affected area may be disproportionately affected by this impact.

7.4 Biodiversity

7.4.1 Nature of potential impact

The proposed changes to Women's and Children's services under Option C1 could impact on biodiversity if new build to accommodate these services at RSH affected any natural habitats or species.

7.4.2 Baseline in a "do minimum" scenario

As noted in the main IIA report, the RSH site does not contain or neighbour any formally recognised areas of high biodiversity value. However, there is a wildlife garden within the RSH site and in 2015 SaTH reported that "We worked with the "Praise Bee" Charity to introduce the Red Mason bees into this area; a declining native solitary non-stinging species"[123].

7.4.3 Likelihood and timescale of impact

The likelihood and timescale of this impact is uncertain at the time of writing. Under Option C1 the Women's and Children's services moved to RSH would be located within the new build planned to accommodate Emergency Care services at the site (see architectural plans in Annex 6). It is not clear from these plans what would

[123] SaTH (2015) SaTH Trust Board – 3 December 2015, Sustainability Update.

happen to the existing wildlife garden at RSH or conversely whether additional provision would be made for increasing biodiversity as part of the new build.

7.4.4 Direction and scale of impact - overall

This is uncertain at the time of writing. Any impact on biodiversity is likely to be small from the perspective of the catchment area as a whole.

7.4.5 Direction and scale of impact - by area

This is uncertain at the time of writing. Any impact on biodiversity is likely to be concentrated within the RSH site.

7.4.6 Potential equality effects

There are no potential equality effects arising out of this impact.

7.5 Cultural heritage

7.5.1 Nature of potential impact

The changes to Women's and Children's services proposed under Option C1 could impact on cultural heritage if new build to accommodate these services at RSH affected any nearby physical features deemed to be heritage assets. Heritage assets include world heritage sites, protected wrecks, battlefields, listed buildings, and scheduled monuments.

7.5.2 Baseline in a "do minimum" scenario

As reported in the main IIA report, neither hospital site currently contains a nationally or locally designated heritage asset but there is a grade II listed building, Mytton Villa, located close to the south east corner of the RSH site.

7.5.3 Likelihood and timescale of impact

It is unlikely that the proposed changes would have any impact on cultural heritage.

7.5.4 Direction and scale of impact - overall

Under Option C1 the Women's and Children's services moved to RSH would be located within the new build planned to accommodate Emergency Care services at the site (see architectural plans in Annex 6). This new build would not encroach on, or close to, Mytton Villa. Therefore the impact on cultural heritage would be neutral.

7.5.5 Direction and scale of impact - by area

The impact on cultural heritage would be neutral for all areas within the catchment area.

7.5.6 Potential equality effects

There are no potential equality effects arising out of this impact.

8 Conclusions and Recommendations

Key findings on impacts

- In reviewing this report, it should be noted that the impacts for women and children represent a sub-group of the impacts for the population as a whole. The impacts across the population were fully stated in the 2016 IIA and the scale of impacts for women and children should be reviewed in this context.
- Option B and Option C1 would both have positive health impacts for users of Women's and Children's services across the catchment area.
- Most access impacts are neutral under Option B and negative under Option C1 at the scale of the catchment area as whole, due to higher overall average journey times. However this varies widely for different localities within the catchment area, with some projected to experience shorter journey times, including some who currently have the longest journeys, and others longer.
- Under Option C1 the most positive impacts on access would be experienced in Shrewsbury & Atcham, Oswestry and Powys. The most negative impacts would be experienced in Bridgnorth and the three Telford and Wrekin localities. The average journey times conceal variations in the projected journey times for women and children who live in different localities.
- The projected economic, social and environmental impacts are all either of a minimal scale, neutral or uncertain at the time of writing.

Key findings on equality effects

- Several groups of women and children would experience a combination of positive and negative equality effects arising from the projected impacts. They may be disproportionately most likely to use the affected services, and therefore benefit the most from the project positive health impacts. Equally some may be disproportionately affected by the longer projected journey times.

Mitigation and enhancement

- Key recommendations for mitigation and enhancement include: reducing unnecessary journeys and transfers; safer care pathway agreements for children; and reducing risk factors before, during and after pregnancy.

Priorities for further investigation

- The following priorities for further investigation were identified:
  - Work to enhance the availability of urgent services in remote locations.
  - Additional data and information requirements to better understand patient experience.
  - A strong public awareness campaign surrounding the correct service to access in the case of a medical emergency potentially targeting the population as a whole, with emphasis on current and future services across the sites.
  - Build on existing and planned public health interventions and consider a more proactive/aggressive system-wide approach to prevention, bridging deprivation and other equalities gaps which would more effectively and appropriately support the re-configuration and improve outcomes for women and children.
  - Continued engagement with West Midlands Ambulance Service and Welsh Ambulance Service is encouraged to ensure full sign up to the proposed model.

- Further work, building on current discussions that are well progressed, with the ambulance services regarding Ambulance response times across Shropshire, Telford & Wrekin and Powys.
- Consideration as to whether a review of the location of Breast Services provided by Shrewsbury & Telford NHS Trust is required.

This chapter provides conclusions, suggestions for mitigation and enhancement, and recommendations for further investigation.

8.1 Key findings on impacts

8.1.1 Impacts on catchment area as whole

Table 8.1 provides a summative assessment of all the projected impacts of Option B and Option C1 on the catchment area as a whole.

Each impact has been assessed on a common seven-point scale:

+++	Significant positive
++	Moderate positive
+	Minimal positive
o	Neutral
-	Minimal negative
- -	Moderate negative
- - -	Significant negative

Instances where it has not been to assess an impact with certainty at the time of writing are denoted as follows:

?	Uncertain

Table 8.1 Impacts on catchment area as whole

Impacts	Option B	Option C1
Health and Access: Women's services		
Clinical effectiveness	++	++
Patient safety	++	++
Patient experience	++	++
Access to gynaecology day case services	-	o
Access to gynaecology in-patient services	o	-
Access to consultant-led antenatal ward (ending in birth episode)	o	-
Access to consultant-led antenatal ward (not ending in birth episode)	o	-
Access to consultant-led delivery ward (ending in birth episode)	o	-
Access to consultant-led delivery ward (not ending in birth episode)	o	-
Access to consultant-led postnatal ward	o	-
Transfers from midwife led units	o	-
Health and Access: Children's services		
Clinical effectiveness	++	++
Patient safety	++	++
Patient experience	++	++
Access to in-patient Children's Assessment Unit	o	-

Impacts	Option B	Option C1
Access to children's in-patient ward	o	-
Access to neonatal ward (all)	o	-
Access to neonatal ward (direct)	o	o
Economic		
Local employment	o	o
Local businesses	o	o
Local education/training opportunities	o	o
Local economy	o	o
Local house prices	o	o
Social		
Local well-being	o	o
Local community cohesion	o	o
Local deprivation	o	o
Local traffic/congestion levels	o	-
Environmental		
Greenhouse gas emissions	o	?
Air pollution	o	-
Noise pollution	o	o
Biodiversity	o	o
Cultural heritage	o	o

Overall, this illustrates that the projected positive health impacts under Option B and C1 are the most significant of all the impacts assessed.

Most access impacts under Option C1 are negative at the scale of the catchment area as whole, due to higher overall average journey times. This reflects the fact that there are higher proportions of women and children who use these services who live in Telford and Wrekin than in Shropshire and the affected parts of Powys. There are also parts of Shropshire that are closer to PRH than RSH. The longer journey times they would experience to access these services if they were relocated to RSH therefore result in higher overall average journey times. However, these averages conceal variations in the projected journey times for women and children who live in different localities within the catchment area (see below).

The projected economic, social and environmental impacts are all either of a minimal scale, neutral or uncertain at the time of writing. This reflects the fact that the main potential drivers of these impacts (changes in staff numbers at each hospital site, the volume of road vehicle miles driven to access services, and new build to accommodate service changes) are all small under both Option B and Option C1.

8.1.2 Impacts on localities within the catchment area

The projected health impacts under Option B and Option C1 would be felt equally by women and children living in different parts of the catchment area.

The projected economic, social and environmental impacts have some potential geographical variation but are of such a minimal scale they are not considered in detail here.

The projected access impacts do have a geographical dimension, most notably under Option C1. Table 8.2 and Table 8.3 provide a summative assessment of all the projected access impacts broken down by locality, under each option. This

assessment is based on the scale of the potential increase or decrease in average journey times (by car and by public transport) from each locality.

Each impact has been assessed on a common four-point scale:

++	Material increase in journey time
+	Modest increase in journey time
-	Modest reduction in journey time
- -	Material reduction in journey time

Table 8.2 Access impacts under Option B by locality

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
To gynaecology day case services	-	-	++	++	+	- -	- -	- -	++

NB There are no projected impacts on access to other service types under Option B.

Table 8.3 Access impacts under Option C1 by locality

	Bridgnorth	North Shropshire	Oswestry	Shrewsbury & Atcham	South Shropshire	Hadley Castle	Lakeside South	The Wrekin	Powys
To gynaecology day case services	+	+	- -	- -	-	++	++	++	- -
To gynaecology in-patient services	-	+	++	++	+	- -	- -	- -	++
To consultant-led antenatal ward (ending in birth episode)	-	+	++	++	+	- -	- -	- -	++
To consultant-led antenatal ward (not ending in birth episode)	-	+	++	++	+	- -	- -	- -	++
To consultant-led delivery ward (ending in birth episode)	-	+	++	++	+	- -	- -	- -	++
To consultant-led delivery ward (not ending in birth episode)	-	+	++	++	+	- -	- -	- -	++
To consultant-led postnatal ward (ending in birth episode)	-	+	++	++	+	- -	- -	- -	++
To consultant-led postnatal ward (not ending in birth episode)	-	+	++	++	+	- -	- -	- -	++
To in-patient Children's Assessment Unit	-	+	++	++	+	- -	- -	- -	++
To children's in-patient ward	-	+	++	++	+	- -	- -	- -	++

This illustrates that under Option C1 the most positive impacts on access to the affected Women's and Children's services would be experienced in Shrewsbury & Atcham, Oswestry and Powys, while those in North Shropshire and South Shropshire would also experience some benefit. The most negative impacts would be experienced in the three Telford and Wrekin localities, while those in Bridgnorth would also experience a smaller scale negative impact.

8.2 Key findings on equality effects

Women and children are both protected characteristic groups themselves. As such all the impacts described in the previous section are effectively equality effects – i.e. they are things that will affect them much more than, and in different ways to, other members of the general population. Beyond this, there are also potential disproportionate and differential equality effects for different groups of women and children.

Several groups of women and children would experience a combination of positive and negative equality effects arising from the projected impacts. They may be disproportionately most likely to use the affected services, and therefore benefit the most from the project positive health impacts. Equally some may be disproportionately affected by the longer projected journey times.

Table 8.4 summarises the potential equality effects for these different groups.

Table 8.4 Potential equality effects for different groups of women and children

	Potential equality effects
Groups of women	
Pregnant and maternal women	■ This group is disproportionately more likely to use the affected maternity services than other women, and would therefore experience: – A positive effect arising from the projected health impacts under Option B and Option C1. – A negative effect arising out of longer average journey times to access services under Option C1.
Women in different age groups	■ Women aged 20-29 and 30-39 are disproportionately more likely to use the affected maternity services than women of other ages, and would therefore experience: – A positive effect arising from the projected health impacts under Option B and Option C1. – A negative effect arising out of longer average journey times to access services under Option C1. ■ Older women (aged 40 and over) are disproportionately more likely to use the affected gynaecology services than women of other ages, and therefore experience: – A positive effect arising from the projected health impacts under Option B and Option C1. – A negative effect arising out of longer average journey times to access services under Option C1. ■ Younger women (aged under 20) are less likely to use the affected maternity and gynaecology services than other age groups but are disproportionately likely to live in the localities which would experience the largest increases in journey times under Option C1 and not have access to a

	Potential equality effects
	car.
Women with a disability	■ Women with a disability may be disproportionately more likely to need to use the affected services than average, and would therefore experience: – A positive effect arising from the projected health impacts under Option B and Option C1. – A negative effect arising out of longer average journey times to access services under Option C1. – A potential negative effect arising out of longer journey times to access services and additional barriers to using public transport for under Option C1. – The relative unfamiliarity of the RSH site may also result in a negative effect for women with a visual impairment.
Women of different races	■ BAME women (particularly those born outside the UK) are disproportionately more likely to require consultant-led maternity services, and would therefore experience: – A positive effect arising from the projected health impacts under Option B and Option C1. – A negative effect arising out of longer average journey times to access services and make transfers from MLU under Option C1. – BAME women are also disproportionately represented in the localities which would experience the largest increases in journey times under Option C1 and not have access to a car. – Recent arrivals to the area/the UK may also not benefit from such wide social networks, which can help to mitigate negative potential access impacts.
Women with different religions or beliefs	■ No potential equality effects identified.
Lesbian, gay and bisexual women	■ No potential equality effects identified.
Women and gender reassignment	■ No potential equality effects identified.
Women who are married or in a civil partnership	■ No potential equality effects identified.
Groups of children	
Children in different age groups	■ Children aged under 9 are disproportionately more likely to use the affected in-patient services than older age groups,

	Potential equality effects
	and would therefore experience: – A positive effect arising from the projected health impacts under Option B and Option C1. – A negative effect arising out of longer average journey times to access services under Option C1. ■ Children aged under 1 are the only users of the affected neonate services, and would therefore experience: – A positive effect arising from the projected health impacts under Option B and Option C1. – Comparatively few negative effects arising out of longer average journey times to access services under Option C1, as most babies would already be at RSH prior to their admission to neonates.
Children with a disability	■ Children with a disability may be disproportionately more likely to need to use the affected services than average, and would therefore experience: – A positive effect arising from the projected health impacts under Option B and Option C1. – A negative effect arising out of longer average journey times to access services under Option C1. – Children with a disability may experience similar equality effects associated with access to services and the unfamiliarity of the RSH site as women with a disability.
Children and gender reassignment	■ No potential equality effects identified.
Children of different races	■ BAME children are disproportionately more likely to require neonate and in-patient services, and would therefore experience: – A positive effect arising from the projected health impacts under Option B and Option C1. – A negative effect arising out of longer average journey times to access services under Option C1. – BAME children are also disproportionately represented in the localities which would experience the largest increases in journey times under Option C1.
Children with different religions or beliefs	■ No potential equality effects identified.
Male and female	■ No potential equality effects identified.

	Potential equality effects
children	
Lesbian, gay and bisexual children	■ No potential equality effects identified.
Other groups	
Women and children living in rural areas	■ This group is disproportionately represented amongst the localities which currently have the longest journey times to access PRH, and would therefore experience: – A small positive effect arising out of shorter average journey times to access gynaecology day case services under Option B. – A larger positive effect arising out of shorter average journey times to access most of the affected services under Option C1.
Deprived young families	■ Deprived women and children are disproportionately more likely to require the affected in-patient services, and would therefore experience: – A positive effect arising from the projected health impacts under Option B and Option C1. – A negative effect arising out of longer average journey times to access services and make transfers from MLU under Option C1. – Deprived women and children are also disproportionately represented in the localities which would experience the largest increases in journey times under Option C1.
High risk children	■ This group is disproportionately likely to need to use the affected in-patient services for children, and would therefore experience: – A positive effect arising from the projected health impacts under Option B and Option C1. – A negative effect arising out of longer average journey times to access services under Option C1.

8.3 Mitigation and enhancement

The IIA approach has been designed to focus on impacts rather than mitigations. However, as some mitigation ideas have begun to emerge as the impacts were explored, we have started an initial mitigation plan in this section.

There is a great deal of effort going into the review and enhancement of Women's and Children's services both nationally and locally. Attendees at the IIA clinical workshop felt that there were potential actions that could usefully be taken to bring

some of these efforts together to help to address the potential impacts and equality effects of the changes being proposed under the Future Fit programme. The recommendations below have been drafted jointly by representatives from the public health departments in Telford and Wrekin and Shropshire to form part of the mitigation action plan to this IIA and represent initial thinking. These need to be subject to wider scrutiny and engagement, as part of a subsequent workstream to fully develop a mitigation action plan in response to issues raised in this report and in the 2016 IIA,

There are potentially three broad approaches to handling the anticipated impacts, particularly if consolidation of services is pursued more vigorously.

These include

1. Reducing unnecessary journeys and transfers:
   This could be achieved by maximising paediatric expertise in the two main UCCs covering the great majority of paediatric consultations from across the catchment. This could include many ambulance cases that are suitable for UCC assessments; supported by detailed care pathway agreements.
   These nurse could be supported by a consultant rota for phone advice. A small percentage of these cases would be referred to the Emergency Department for further assessment and treatment by Paediatric registrars and consultants.
   Admission to the Paediatric in-patient unit could be decided as necessary.
   Transfer to other specialist services such as General surgery, ENT surgery, Ophthalmology, and orthopaedics could also be arranged.
   Ideally children with less urgent but significant features could be offered out-patient assessment at both sites within a few days for defined illnesses.
   Further progress towards reduced length of hospital stay (and associated parental hospital stays or visits) could be promoted within a next phase Ambulatory Care philosophy, that would include care planning for chronic conditions and for potential exacerbations or complications.

2. Safer Care pathway agreements for children:
   Paediatricians, other specialist hospital services, GPs, ShropDoc, and Ambulance services could agree a full list of typical care pathways that fit the new configuration, evidence reviews, and modern clinical practice. Patient interest groups would be consulted wherever available. Examples could include asthma, diabetes, epilepsy/fits, head injury, acute abdominal pain, and minor injuries.

3. Reducing risk factors before, during and after pregnancy:
   This could apply particularly in maternal care where well recognised health inequalities persist and there are opportunities need to be enhanced to offer further support, for example smoking cessation, lifestyle services and sexual health/contraceptive services.

   The risks identified in various public health profiles or guidance documents is shown overleaf. These risk factors align to the Local Maternity System Plan Health & Wellbeing (Prevention) workstream plan, which is based on Better Births recommendations.

Risk factor	Indicator	Indicator	Mitigation actions

	T&W	Shropshire	
Maternal smoking • Smoking at booking • Quit rates during pregnancy • Smoking at time of delivery (SaToD)	367 (18.1%) (SaToD)	297 (12.3%)(SaToD)	• Audit reasons for non-adherence to cessation. • Benchmark smoking cessation services for good practice. • Systematic recording of carbon monoxide (CO) readings conducted by midwives at booking leading to direct opt out referral to local Stop Smoking Services. • Recruit women and their families pre-through local stop smoking services. • All midwives receive annual mandatory training including maternal. • Review the impact of the new public health specialist midwife service at PRH, which offers behavioural support and NRT during pregnancy from April 2017.
Substance Misuse - drug and alcohol consumption			
Excess weight • Prevalence of excess weight (population-level) • Excess weight at booking			• Preconception: local health lifestyles services offer advice, guidance and referral to weight management, physical activity, smoking, drugs and alcohol and mental health issues. Ensure further publicity and awareness raising regarding the importance of healthy weight before, during and after pregnancy • During pregnancy: BMI recorded at booking appointment, automatic referral made to healthy mums, who support phase one during pregnancy to manage weight gain. • Referral also made to the maternal public health specialist midwife to offer a one to one conversation and improve retention and moving people into action phrase of behavioural change
Sexual health and conception • Teenage pregnancy rate • Termination of pregnancy rate (including late terminations) • Long acting contraception rates	105 (32.6 per 1000)	85 (15.1 per 1000)_	• Enhance partnership efforts to delay age of pregnancy and continue in education, employment or training. • Effectively promote and inform women of contraception choice at universally at a population-level as well as at booking, post birth and 6 week postnatal visit through agreed

			contraceptive pathways across: primary care, sexual health services and maternity
Multiple births			Audit needed to look at avoidable risks
Late booking			Audit needed to identify opportunities for improved communication or support
Breastfeeding • at birth • at 6 weeks	742 (36.3%) (@ 6-8 weeks)	1272 (45.9%) (@ 6-8 weeks)	• Improve breastfeeding rates across all three localities • Maintain UNICEF baby friendly accreditation in maternity services and Specialist Midwife capacity for breastfeeding to support mums and train • Improve capacity of lactation consultant qualified midwives in hospital and community services
Antenatal and newborn screening uptake Prenatal maternal and infant immunisation coverage			Review delayed diagnosis or missed screening. Continue to improve local uptake rates.
Health inequalities (of risks identified above) related to the following dimensions: • socio-economic deprivation • ethnic origin • age of mother			This is part of a broader strategy of Health & Well-Being Boards to reduce inequalities. Further audit is needed related to age, socio-economic, or ethnicity for groups that miss routine care or book late.

Next steps – engage on a wider group of colleagues to agree the scope of mitigation actions proposed to enhance the effectiveness of prevention strategies. To be aligned with LMS work streams

Other risk areas for consideration:

- Perinatal mental health
- Hypertension and diabetes
- Others?

Suggestions for mitigating potential negative impacts on access are also provided below:

- Ensure high profile campaign gives clear and accessible information regarding which services may be site sensitive (e.g. children can only be directly admitted through paediatric assessment unit on ED site), to enable patients and the carers to make well informed decisions.
- Build on existing and planned public health interventions - primary prevention, bridging deprivation and other equalities gaps to help with improving health outcomes.
- Ensure ambulance service availability for intra site transfers, when required.
- Engage on a locality/ neighbourhood basis with:
  - the families and carers of patients using women and children inpatient services
  - patients coming from areas of high deprivation who are disproportionately negatively impacted by potential changes
  - specific groups with defined characteristics as highlighted in the narrative (e.g. Indian women, 'Other' black, and white-other)

  who may be impacted by increased travel times and costs to develop mitigating strategies e.g. childcare, reduced price parking / subsidised public transport, potential support from third sector groups.
- The idea of a shuttle bus service between PRH and RSH for patients (and their families) was also mooted by some stakeholders and equalities interviewees.

8.4 Priorities for further investigation

Clinicians who participated in the IIA Clinical workshop identified the following priorities for further investigation:

- Further work is required to enhance the availability of urgent services in remote locations. Lessons can be drawn from an Australian model where paramedics have complete access to Emergency medications and can administer these instantly if required, following remote consultation with a clinician. Additional data and information is required to better understand patient experience. This includes:
  - Mortality and morbidity data for each locality, with reference to travel times.
  - The profile of the population, particularly those groups protected under equalities legislation that will be affected by options B and C1.
- A strong public awareness campaign is needed, to inform and educate the public about the correct service to access in the case of a medical Emergency for an acutely unwell child. Further engagement could be potentially completed with the population as a whole to ensure of a full understanding of current and future services. There needs to be continued engagement with West Midlands Ambulance Service and Welsh Ambulance Service to ensure their complete involvement and collaboration with the proposed model.
- Further explore whether there is a correlation between maternal risk factors, C-section rates and risk category that may be amendable to additional mitigation measures.

- Build on existing and planned public health interventions and consider a more proactive/aggressive system-wide approach to prevention, bridging deprivation and other equalities gaps which would more effectively and appropriately support the re-configuration and improve outcomes for women and children.
- Further work to test the assumptions regarding public transport availability and actual travel times. Review of available parking to ensure timely access to appointments.
- Further work, building on current discussions that are well progressed, with the ambulance services regarding Ambulance response times across Shropshire, Telford & Wrekin and Powys.
- Further conversations are required to ensure all clinicians are satisfied with the clinical processes proposed for identification of higher risk day case gynaecology patients who would have their day case surgery at the Emergency Site and would return to the Gynaecology Ward for their post-op care.
- A review of the location of Breast Services provided by Shrewsbury and Telford NHS Trust
- There is some speculation that parents living further from a hospital site may choose to extend self-management of an acutely unwell child for a longer period, before opting to consult Emergency services. There is however, a lack of evidence to confirm this. Patient engagement is required to derive evidence in support or against this phenomenon.

The CDOP work in Shropshire, Telford & Wrekin has not found a theme in terms of child deaths and travel times, this may warrant specific investigation and further work is necessary to understand the impact for Powys children.

Members of the Future Fit IIA steering group are also aware of a detailed piece of analytical work being undertaken by the Head of Midwifery at SaTH, Overview of Maternity Services 2017. This will be a key document in informing the next steps for the mitigation action plan and we understand it will be published on the Trusts website in due course.